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ABSTRACT

One of 11 guides which can be used as a resource for junior high school teachers in implementing the exploration phase of career education, the primary focus of the guide is on the relationship of the health industry to the community and individual, the professions and occupations found in the industry and the many directions which a person with a health career may take. The following career paths are explored: (1) health protection, (2) the support, maintenance, and restoration of health, (3) health education and research, (4) communications, and (5) production and distribution. Each unit specifies a unit purpose and performance objectives and includes: (1) a brief description of unit content, (2) teaching-learning activities, (3) evaluation techniques, and (4) suggested resources. A sample list of health occupations is included for each unit. Related instructional materials include plays, charts, transparency masters, forms, puzzles, and other classroom materials integrating academic areas and health occupations. Two sample six to nine week "mini" courses, student self-evaluation materials, preparation questions for resource persons, and a list of sources are provided in the appendix. (MW)

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EXPLORING CAREERS
in
THE WORLD
of
HEALTH :
A GUIDE FOR TEACHERS

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PREFACE

Career education may be described as a program of systematic educational experiences which prepares students for economic independence and personal fulfillment. Such a program should focus on the development of knowledge, general and specific abilities, and the awareness of the values of a work-oriented society; assisting all individuals--at all educational levels and ages--to interact with the economic sector.

Career education includes vocational training, but it is more than this. It aims toward developing the total individual; i.e. an individual able to perform all of his life roles with the skill, knowledge, and understanding necessary for success in all of these roles. It aims at developing the self-motivating and self-fulfilled individual who is a constructive force in the maintenance and improvement of the social body of which he is a part.

To meet the needs of individuals of all educational levels and ages, five phases of career education need to be implemented: awareness, orientation, exploration, preparation, and adult and continuing education.

Career awareness, emphasized early in the career development program, is to lead the individual in developing certain fundamental attitudes toward himself, toward other people, and toward work. Career orientation and exploration--emphasized in the middle school years--provides appropriate educational experiences which enable the individual to become familiar with the economic system and which allows the individual to explore various occupational clusters, to obtain initial work experience, and to integrate work values into his personal value system. The career exploration phase places equal emphasis on exploration of specific occupational clusters and on the relevancy of academic subject matter to career goals. During the preparation phase, which may begin at grade ten or later, the individual narrows his choices of careers and prepares to enter the labor market or to continue his education. The purposes of adult and continuing education are to assist in the individual's advancement and to aid adults in discovering, analyzing, and preparing for new careers.

Accepting the philosophy underlying career education probably means change for the educator and the educational system; it certainly means additional planning and organizing. Adopting this new concept could mean adding totally new programs, changing present programs, training new personnel, and/or developing new courses of study.

To say that education must change is one thing; implementing that change is something else. This guide, "Exploring Careers in the World of Health" is one of eleven such guides (including "Orientation to the World of Work," an introduction to all guides) which can be used as a resource for teachers in implementing the exploration phase of career education in the middle/junior high school.

The following are suggestions for implementing this guide:

(1) It can be used as one of the eleven guides as resource material for a series of mini-courses, each dealing with a seperate occupational area or cluster.

(2) It can be used as a resource to integrate career exploration activities into the existing curriculum.

In either option this career exploration cluster guide can provide a valuable resource for student exploration of the Health Occupations cluster.

INTRODUCTION

Since the beginning of civilization man has been concerned with protecting life and curing sickness. However, for thousands of years the responsibility for health services was limited to the physician and the nurse. It was not until the 16th century that the slow and painful progress in health services began. Several factors stimulated the beginning of this progress. The invention of the microscope laid the groundwork for the discovery of the cause of communicable diseases. Studies of human anatomy revealed unknown and scientific facts about the functions of the human body.

Occupations in health began to expand in the 16th century when dentistry seperated itself from medicine and became a professional entity. By the beginning of this century occupations in the health services had increased to include pharmacy, nutrition, dental assisting, and sanitation.

Although a steady emergence of new health occupations continued during the first part of this century, it was not until the 1950's that our explosion of health occupations occurred. Today health is the nation's second largest industry, with expanded activities in nearly every professional field, calling for supportive personnel to assist in meeting the individual and community need for health services.

Today, more than four million people are working in the health industry, and it is estimated that by 1980 one out of every sixteen people employed will be working in some area of health. In addition to jobs in the established health professions and occupations, new jobs in health are emerging, partly as the result of technology and partly because our society has come to believe that health is a basic human right.

The health system we know today is a humanitarian industry that exists for the sole purpose of meeting people's needs and wants for health and survival. In carrying out the multiplicity of functions, the health industry relates to all segments of the culture science, economics, agriculture, art, music, political, religion etc. Consequently, many of the careers in health will be a part of other areas in the world of work while being an integral and essential job in the health industry.

Purpose of this Guide

"Exploring Careers in the World of Health," has been developed to assist the junior high or middle school teachers to develop career education instruction related specifically to the health occupations.

In less than a decade, the number of jobs in health has increased from 200 to over 600 different types of jobs. While many of these are the result of specialization within the professional health fields, 85 percent of the jobs in health are those at the technical/assistant or aide level. Thus, students with nearly every kind of aptitude, interest, and ability can have many opportunities for a health career which do not require extensive and expensive preparation for entry into the job.

In developing this guide every attempt has been made to make each unit a complete entry which the teacher may lift out and use at various intervals when teaching his or her assigned subject. Each unit includes: (1) a brief description of pertinent information regarding the unit content, (2) suggestions for integrating content in course work, (3) performance objectives, (4) content outline, (5) suggestions for teaching-learning activities, (6) resources for the teachers' and students' use. A sample list of health occupations will be included in the units dealing with the functional areas.

Suggestions for Using the Guide

Teachers may use this guide in one or two ways: (1) as a mini-course in which the teacher inserts a period of 6-9 weeks health career exploration in the existing course, (See Appendix, p. 223.); (2) by integrating health careers information in the various existing subject areas.

Career education for health occupations provides excellent opportunities for team teaching. For example, the math teacher may be brought in to show the relevance of arithmetic skills to health occupations and how the various health workers use these skills. Other subject areas relevant to health occupations includes art, language-arts, social studies, science, and health courses.

The primary focus of this guide is on the relationship of the health industry to the community and individual, the professions and occupations found in the industry and the many directions which a person with a health career may take.

Each unit includes numerous suggested activities from which the teacher may select to build a daily lesson. Numerous films, filmstrips, and printed materials, are available for enrichment of subject areas. These will be especially helpful in areas that do not have a variety of health facilities or agencies. Transparency masters may be used to prepare transparencies for use on the overhead projector or a bulletin board suggestion. Student activities may be duplicated and handed out to students for them to complete.

It is suggested that teachers encourage each student to select two or three types of health occupations for detailed exploration. Have students be responsible for inviting guest speakers and writing professional organizations for information. (See listing of professional health organizations in the appendix.)

Finally, teachers using this guide are reminded that for health career exploration to be effective, each major discussion topic (Community and Mental Health, Support, Maintain and Restore Health, Education and Research, Communication and Health Information, and Production and Distribution of Health Products) must be related to occupations which exist in these areas and can be found within the local and state community.

Facilities and Equipment

It is desirable that teachers have available equipment such as overhead projectors, filmstrip projectors, and motion picture projectors. One or more copies of the following publications should be available in the school library and the teacher's library.

Health Careers Guidebook
U.S. Department of Labor and the National Institute of Health
Superintendent of Documents
U.S. Government Printing Office
Washington, D.C.

Health Careers in Kentucky
Health Careers Association
Kentucky Hospital Association
1415 St. Anthony's Place
Louisville, Kentucky

The above references will provide job descriptions, educational requirements, and other information relevant to exploration of health careers.

General Suggestions for Teaching Health Careers

1. Prepare a list of references regarding historical aspects of health services and careers in health that are available in the public school library. Make this list available to the students.

2. Contact hospital administrators, doctors, dentists, veterinarians, county or city public health offices, directors of volunteer health agencies, and mental health clinics to explain your health career program. Enlist their cooperation in regard to student interviews, field trips, and "shadowing" activities.

3. Contact the Kentucky Health Careers Association, St. Anthony's Place 1415, Louisville, Kentucky, for a copy of the teacher's guide, "Health Careers in Kentucky." Use this information in the guide to help students pin-point vocational-technical schools, junior colleges, universities, and hospitals offering health career preparatory programs in Kentucky.

4. Assign students responsibilities for inviting guest speakers, and writing professional organizations for career information.

5. Enlist the cooperation of other teachers to show the relevance of their subject area to jobs in health.

6. Transparency masters may be used to prepare transparencies for use on the overhead projector or as suggestions for bulletin boards and classroom displays.

7. Student hand-out materials for interview and self-assessment have been included in the appendix. These may be duplicated for students' use during exploration of health careers and self-inventory.

8. Two sample "mini" courses have been included in the appendix. Teachers who plan to make career exploration a short course of study are encouraged to select the mini-course best suited to their classroom activities.

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UNIT ONE

INTRODUCTION TO EXPLORATION
OF
HEALTH OCCUPATIONS

UNIT PURPOSE: To provide the student with an overview of the health industry (a complex system supported by taxes, voluntary contributions, and private funds), and how this segment of work benefits the individual and the community through the various types of services being offered.

PERFORMANCE OBJECTIVES: The student will be able to

I. Explain the purpose and function of the health industry.

II. Identify the structure of the health occupations cluster.

III. Name the health facilities and agencies that are available in the community.

NOTE TO THE TEACHER:

"Suggestions for Integration of Content into Junior High Science or Health Courses," can be found on p. 21 of Supportive Materials for Unit One.

I. The student will be able to explain the purpose and function of the health industry.

A. Suggested Content

1. Acts to protect and preserve human life by carrying out the following functions:

a. Protection against

(1) Environmental hazards
(2) Physical hazards
(3) Animal related diseases
(4) Occupational hazards

b. Support, maintain, and restore health

(1) Cure diseases
(2) Maintain a "state of health"
(3) Prevent diseases
(4) Restore people to a productive life

c. Education and research

(1) Education for health workers
(2) Education for general public
(3) Seek causes and means of cure or prevention of diseases

d. Communication and information

(1) Alert people of conditions hazardous to health
(2) Keep people informed

2. Production and distribution of goods

a. Drugs

b. Prothesis (eyeglasses, artificial limbs, pacemakers, etc.)

c. Supplies and equipment (dressings, instruments, machines, etc.)

3. Acts as a link between local and world communities to:

a. Eradicate sources of disease

b. Maintain standards for healthful living

c. Assist the community and individual to handle health problems

4. Health a part of all areas of work

a. Essential to a quality of life

b. Concerned with man's total needs

B. Suggested Teaching-Learning Activities

1. Check with the school and city libraries for sources of reading materials, e.g. bibliographies of famous people in health. Compile a list of these books for students who are interested in reading about events in health.

2. Basic to teaching careers in health is the understanding of why we have a health industry. Suggestions to help students understand the purpose of this area of work include:

    a. What basic needs do you have that must be met in order that you can survive?

    b. How many years more can you expect to live than a person who was born in 1865?

    c. What has contributed to your being able to live longer?

    d. How can your community prevent a communicable disease from spreading within your community or from one community to another?

3. Duplicate and hand out a copy of the "World Health Organization's Definition of Health," p. 22. Have students discuss this definition relative to their concept of health.

4. Show a historical film. For example:

    a. "One Against the World" (The story of Dr. Ephraim McDowell)

    b. "The Story of Dr. Lister"

5. Have students prepare a bulletin board to show a point in time when a milestone was made in health. (See "Historical Events and Examples of How These Affected the Health Services," pp. 23-24.)

6. Duplicate and hand out to the students the story "John Is Bitten by a Rabid Dog," pp. 25-30. After the students have read the story, ask them questions to bring out the many different kinds of services that were involved to save John's life and protect the health of other people in the community.

7. Duplicate and hand out form "How My Family Uses Health Services and Goods," p. 31. When assisting students to complete this form, help them to include such items as glasses, braces on teeth, public sanitation, as well as services to cure illness.

8. Have the students bring clippings from newspapers and magazines to class for discussion of new events in health and how these will influence his chances for survival.

   Note: Since most students see the health delivery system as a doctor, nurse, and hospital services, tell them to look for information related to the environment, the sea laboratory, the sky laboratory experiments, quarantine of people and animals, as well as information about medicine.

9. When discussing benefits derived from the health industry, the following suggestions might be used.

   a. Have a debate on the kind of community we would have if we did not have a health system.

   b. Ask students to role play "Community Action to Protect People's Health," pp. 32-35.

   c. Ask the students to invite the director of the Regional Health Planning Council or the health planner in your community to speak on needs related to rural and urban areas. Or have them write the director of the Kentucky Health Planning Council for information, or arrange a telephone interview to talk about health needs in Kentucky.

10. Ask for volunteers to interview people who work in different types of jobs and report back to the class about how the person's work is related to health. Suggested occupational fields might include the following:

    a. Artist
    b. Musician
    c. Home economics teacher
    d. Math teacher
    e. Minister
    f. County welfare worker
    g. Plant manager
    h. School counselor
    i. T.V. station manager
    j. Architect
    k. Farmer
    l. Manager of a local dairy

11. Distribute "Relationship of Different Areas of Work to Health," pp. 36-37. Have them fill in the various areas of work that health is a part of.

12. Suggested methods for integrating health careers in other junior high school subjects.

    a. Ask the language arts teacher to have students write a story about how the health industry serves people. Have your class select the best story. If possible, arrange with the newspaper editor to have the best story published in your daily paper.

b. Ask the mathematics teacher to center one or two lessons on vital statistics. Ask several students to present information about how these statistics contribute to solving a community's health problems.

c. Ask the art teacher to assign students to prepare posters demonstrating how health personnel protects and preserves human life. Arrange to have these posters exhibited in your school. Encourage each student to participate in the state and national health careers poster contest.

Note: Contact Mr. Mike Rush, Director, Kentucky Health Careers Association, 1416 St. Anthony's Place, Louisville, Kentucky for information regarding the poster contest.

d. Ask social studies teacher to have students study and compare differences in survival such as during periods of war or during epidemics. Also discuss the difference in life span before and after:

(1) the discovery of anesthetic,
(2) discovery of tetanus toxoid (lockjaw vaccine),
(3) discovery of penicillin,
(4) invention of the kidney dialysis equipment.

C. Suggested Evaluation

1. Have the students prepare an illustration depicting different ways the health industry works in their community, giving specific examples of physical, social and environmental functions.

2. Have the students select one historical event and describe the effect of this on our present health system.

D. Suggested Resources

1. Books

a. All About Great Medical Discoveries

b. The Doctor Who Saved Babies, Ignaz Phillip Semmeliveis

c. Magic, Myth and Medicine

d. The Microbe Hunters

2. Films and Filmstrips

a. "One Against the World," (Story of Dr. Ephraim McDowell.)

b. "The Story of Doctor Lister"

3. Resource Persons
    a. Director, Regional Health Planning Council
    b. Director, Kentucky Health Planning Council
4. Student Materials
    a. "World Health Organization's Definition of Health," p. 22.
    b. "Historical Events and Examples of How These Affected the Health Services," pp. 23-24.
    c. "John Is Bitten by a Rabid Dog," pp. 25-30.
    d. "How My Family Uses Health Services and Goods," p. 31.
    e. "Community Action to Protect People's Health," p. 32-35.
    f. "Relationship of Different Areas of Work to Health," (Student Activity), p. 36.
5. Transparency Master
    a. "Relationship of Different Areas of Work to Health," (Teacher's Guide), p. 37.

II. The student will be able to identify the structure of the health occupations cluster.

Note to the teacher: There are approximately 600 different jobs in health, and new jobs continue to emerge due partly to specialization, and partly to health technology.

A. Suggested Content

1. Technological effects on health careers

   a. Increased jobs rather than decreasing as in other fields

   b. Broadens the amount of services to reach more people

   c. Extended the life span of people

2. Structure of health workers

   a. Levels of health workers

      (1) Professional
      (2) Technical or assistant
      (3) Aides

   b. Administrative workers (examples of jobs)

      (1) Hospital administrator
      (2) Public health officer
      (3) Director of volunteer services
      (4) Medical librarian

   c. Clinical health workers (examples of jobs)

      (1) Physicians
      (2) Dentists
      (3) Nurses
      (4) Certified laboratory assistant
      (5) Physical therapist
      (6) Dietitian
      (7) Social worker
      (8) Surgical technician
      (9) Respiratory therapist

   d. Environmental health workers (examples of jobs)

      (1) Sanitarian
      (2) Environmental technician
      (3) Radiation monitor
      (4) Food and drug inspection
      (5) Food and drug analysis
      (6) Veterinarian

e. Health technology (examples of jobs)

   (1) Biomedical engineer
   (2) Extracorporeal technician
   (3) Computer programmer
   (4) Optician
   (5) Orthotic-prosthetic technician

B. Suggested Teaching-Learning Activities

1. Have students write a profile on what jobs make up the health team. File these profiles and compare the results with changed behavior upon completion of this unit.

2. You might ask the students, "How do you think the health industry is organized to take care of your body?" After the discussion, point out to the students that it takes people working in semi-skilled, technical, and professional jobs to meet their needs for health.

3. At this point you might show a film. For example:

   a. "Jobs in the Health Field"

   b. "Is a Career in the Health Services for You?"

   c. "Helping Hands for Julie"

   Suggested activity following viewing of film includes:

   a. Have students list what different people were doing in this film.

   b. Using this information, have students begin work toward building a "health industry tree." Use the trunk as health and the branches as the various health services.

4. When teaching the effects of technology on health delivery system, you might:

   a. Using a technological item that we are familiar with today, work back through history to see how this event created jobs for people. See "Health Technology and Its Results," p. 38 for information regarding technological events that have created new jobs in health.

   b. Invite a retired registered nurse or physician to talk with the class about changes in the health delivery system and how these changes have created new jobs in health.

   c. If you have a conference telephone in your school, have the students write to the Commissioner of Human Resources, (State Director of the Department of Health) and request a telephone interview with him to discuss changes in the health delivery system since 1900 and how these changes have created new jobs.

5. Divide students into groups of four to six and have each group develop a time graph or chart. Assist each group to coordinate efforts.

6. Invite a state supervisor of Health Occupations, Bureau of Vocational Education, to speak on how health workers can adapt their skills to work around the world and opportunities that are available outside of the local community or state.

7. You might want to show a film on the different ways people adapt their skills in different settings. An example film might be, "Doctor-Teacher-Friend" (The Story of the SS Hope).

   Suggested discussion questions include:

   a. How can the health services being provided by these health workers benefit our national security?

   b. How can American health workers applying their skills in foreign lands contribute to our survival?

8. Because many health workers will perform a variety of different kinds of work during the span of their career in health, you might ask the students questions for feedback on the many types of work a person may do while working in a health occupation career job. For example:

   a. A doctor performs service for people: he may perform management work, he may do artistic work, he may perform literary work, he does some mechanical work, he may do persuasive work, all in addition to scientific work.

   b. A nurse performs service for people: she may be an administrator, she does scientific work, she may work outdoors(camps), she may do some mechanical work, and she does clerical work.

   c. A sanitarian performs service for people: he may be an administrator, he does scientific work, he may do persuasive work, he may work indoors or outdoors, he may do literary work, he does some mechanical work and clerical work.

9. Take each area shown in the outline and discuss how this area functions in the total health structure.

10. Make the students responsible for securing resource persons to talk with the class about how their area of work fits into the world of health. Encourage students to consider their parent if they have one working in health.

11. You might ask the students, "How can health help you to earn money to meet your needs and wants for new clothes, a new car, and give you identity in the community?" During the discussion of this question, point out the opportunities which health provides for people to meet their responsibilities.

12. Suggested integration into other courses:

    a. Ask language-arts teacher to assign students book reports on famous people in medicine, nursing, dentistry, and allied health professions.

    b. Ask the social studies teacher to plan one or two sessions whereby the students study social conditions during the 1900's and the beginning of visiting nurse services.

       Note to the teacher: Write to Metropolitian Life Insurance Company, New York for information regarding this company's introduction of visiting nurse services.

    c. Ask the art teacher to do a pictoral chart of the different roles of the nurse, doctor, or medical technologist.

C. Suggested Evaluation

1. Have the students devise a role-playing situation and demonstrate that the health occupation is a team in which every member has a part in contributing to the health and welfare of the individual. Evaluate relative to student knowledge of the many people that comprise a health team.

2. Have students select one health occupation and tell how many different kinds of jobs he can have in this type of health career.

d. Suggested Resources

1. Books

    a. Health Careers Guidebook

    b. Horizons Unlimited

    c. Introduction To The Health Profession

2. Films and Filmstrips

    a. "Doctor-Teacher-Friend"

    b. "Helping Hands for Julie"

    c. "Jobs In The Health Field"

    d. "Is A Career In The Health Services For You"

3. Resource Persons

    a. Physician or registered nurse

    b. Commissioner of Human Resources

    c. State Supervisor of Health Occupations

4. Student Materials

    a. "Health Technology and It's Results," p. 38.

III. The student will be able to identify the health facilities and agencies within the community.

A. Suggested Content

1. Official health agencies

   a. Purpose to safeguard people's health

   b. Tax supported

   c. Types of official health agencies

      (1) World Health Organization
      (2) United States Public Health Services and the National Institute of Health, Divisions of the Department of Health, Education and Welfare
      (3) State Health Department
      (4) Local (county or city) health departments and departments of mental health

2. Voluntary health agencies

   a. American Cancer Society

   b. American Red Cross

   c. American Heart Association

3. Health facilities

   a. Purpose is to provide care and treatment for the sick, injured and infirmed person

   b. Classification

      (1) Tax supported
      (2) Endowment
      (3) Private ownership

   c. Types

      (1) Hospitals
      (2) Long-term care facilities
      (3) Clinics

4. Physicians' and dentists' offices

5. Veterinarians' offices and small animal hospitals

6. Private laboratories

   a. For medical diagnosis

    b. For dental prosthesis

    c. For braces etc.

7. Manufacturers and pharmaceutical companies

8. Local pharmacies and vision companies

9. Health units within industry

    a. Occupational health and safety

    b. Medical and nursing services

    c. First aid stations

B. Suggested Teaching-Learning Activities

1. You might duplicate and hand out the news story, "Health Leads Employment," pp. 34-40. After students have read this information and discussed it, you might have them do a survey of the different kinds and number of health workers in your community, using information compiled from such resources as employment agencies, physicians and nurses registeries, health planning councils, and the personnel directors in the local hospital (s) and nursing homes.

2. Have the students do a community survey of the employment possibilities in your community. Ask them to give a verbal report about requirements for employment in these health facilities and agencies, who owns them, and the kinds of services they provide.

3. Using transparency, "Community Services," p. 41, have students plan and develop a bulletin board depicting their community's health services.

4. You might discuss society's responsibility to provide for the protection of people's health and the government's spending for this purpose.

5. Have a debate on the topic, "What kind of a community would we have if all of the jobs in health were not available to people?"

6. You might ask the students, "Does Kentucky have any special laws to protect its people's health?" After a period of discussion, you might appoint a committee to talk with a public health officer, a hospital administrator, or a nursing home administrator and report back to the class about different kinds of laws to protect people's health.

7. Have the students view film, "Watch on Health," "Counter Attack," or "Horizons Unlimited."

   Suggested questions might include:

   a. How do these workers protect our health?

   b. What types of work did you see being done in the film?

8. For students who are interested: Arrange field trips to visit a mortuary, a small animal hospital or clinic, a comprehensive mental health unit, a health maintenance clinic or a home health care unit and dental laboratory to observe on-the-job activities and report back to class about how they saw these health workers functioning.

9. Ask the students to invite the Director of the Regional Health Planning Council in your community to speak on needs related to rural and urban areas. Or have them write the Director of Kentucky Health Planning Council for information, or arrange a telephone interview to talk about places where health workers work and the need for people in certain areas of the state.

10. Suggested integration in other courses:

    a. Ask the math teacher to give students a formula type of problem to figure the number of hospital beds needed to provide care for the sick. For example the formula would be based on the population: Four to five acute care beds per 1,000 population of total community plus 0.5 beds per 1,000 population of surrounding areas being served.

    b. Ask the social studies teacher to have the students write a paper on the loss of the extended family due to the development of the nursing home business.

    c. Ask the art teacher to have students develop a miniature hospital with equipment, and furniture. Label each room.

    d. Ask the language-arts teacher to assign students to prepare an article for school newspapers describing the health facilities and agencies available in the community.

C. Suggested Evaluation

1. Have students use the "Survey Form," pp. 42-43 to identify all types of health facilities and agencies within the community. Evaluate students' knowledge of tax supported, voluntary agencies, and private types of health resources.

2. Have a panel discussion appointing students to report on resources to show how health facilities function and relate to each other. Evaluate students according to their knowledge of the functions and relationship of business within the health industry.

D. Suggested Resources

1. Books
   - a. Health Careers Guidebook
   - b. Health is a Community Affair
2. Pamphlets and Magazines
   - a. "Nursing Home Fact Book"
   - b. "National Health Expenditures," Research and Statistical Notes
3. Resource Persons
   - a. Director of Regional Health Planning Council
   - b. Director of Kentucky Health Planning Council
   - c. Public health officer, hospital or nursing home administrator
4. Student Materials
   - a. "Health Leads Employment," pp. 39-40.
5. Suggested Evaluation Form
   - a. "Survey Form," pp. 42-43.
6. Transparency Master
   - a. "Community Services," p. 41.

SUPPORTIVE MATERIALS

FOR

UNIT ONE

REFERENCE LIST FOR UNIT ONE

Books

1. All About Great Medical Discoveries, David Dietz, Random House, Inc.
2. Doctor Who Saved Babies, Ignaz Phillip Semmelweis, The Josephine Rich, Messner Publishers
3. Health Careers Guidebook, United States Department of Labor, Superintendent of Documents, United States Government Printing Office
4. Introduction to Health Professions, Ruth F. Odgers and Burness G. Wensburg, The C.V. Mosby Company
5. Magic, Myth, and Medicine, Donald T. Atkinson, World Publishing Company
6. Microbe Hunters, The, Harcourt and Brace
7. Horizons Unlimited, American Medical Association
8. You and a Health Career, Book Division, Department GL, Fairchild Publications, Inc.
9. Health is a Community Affair, National Commission on Community Health

Films and Filmstrips

1. "One Against the World," b/w 16mm, 11 minutes. Audio Visual-Services, University of Kentucky. Rental fee $2.00. Note: This film is the story of Dr. Ephraim McDowell.
2. "The Story of Doctor Lister," color and sound, 16mm, 28 minutes. Ames Company, Division of Miles Laboratories, Inc. Free loan.
3. "Helping Hands for Julie," b/w 16mm, min. Association Films, Inc. Free loan.
4. "Jobs in the Health Field," color and sound, 16mm, 11 minutes. State Employment Security Agency. Free loan.
5. "Doctor-Teacher Friend," color and sound, 16mm, 27 minutes, Motion Talking Picture Service.
6. "Is A Career in the Health Services For You," Health Careers in Kentucky
7. "Watch on Health," color and sound, 13 minutes, available from the U.S. Public Health Service, Audio-Visual Facility, National Communicable Disease Center.

9. "Counter-Attack," color and sound, 29 minutes, Parke-Davis Company, available from Ames Company, Division of Miles Laboratories, Inc.

10. "Horizons Unlimited," color and sound, 14 minutes. Health Careers in Kentucky Association, or American Medical Association Film Library.

Pamphlets, Magazines, and Newspaper Articles

1. Nursing Home Fact Book, American Nursing Home Association, Washington, D.C., 1970.

2. "National Health Expenditures, 1929-1970," Research and Statistical Notes, Social Security Administration, United States Department of Health, Education, and Welfare.

UNIT ONE

Suggestions for Integration into Science or Health Courses

The science teacher may wish to utilize Unit One in his classroom by relating the need for health care to individuals need to survive. Utilize the basic need for survival in plants and animals, comparing this need to human need for survival. Include in the discussion the impact of the health service industry on humans, animals and plant survival. (Example: human need for safe environment, as well as animal and plants need for safe environment). Bring in the types of individuals who are responsible for insuring a safe environment and maintaining health.

The science teacher may wish to use this unit in discussion of life and the environment, balance of nature, disease, behavior, plant and animal life and maintenance of life.

Suggestions for Integration into Health Courses

The health teacher may introduce Unit One in this guide by discussing people's needs and how health workers strive to meet these needs. Approach satisfaction of needs utilizing the concept of quality of life and standard of living.

Point out the evolution of health services and desire of people to have certain services available to them due to technological advancement. Discuss the impact of these advancements on the health occupations discussing several service areas (pharmacy, expansion of nursing services, medical technology and dental services) and bring students into contact with health workers and their jobs and community facilities.

The health teacher may wish to use this unit when he is discussing consumer health, health in the world, governmental agencies providing health care, health and family life, physical fitness and basic needs of the health industry, national health insurance and technological advancement and industrial organizations.

World Health Organization's

Definition of Health

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.

The health of all people is fundamental to the attainment of peace and security and is dependent upon the fullest cooperation of individuals and states.

Historical Events and Examples of How These Affected the Health Services

	Event	Outcomes
1.	1590--Anton Van Leeuwenhoek invented the microscope.	--Provided means to see minute objects --Improved methods of diagnosis --Strengthened research methods
2.	16th century dentistry was seperated from medicine.	--Dentistry became a profession
3.	1616--William Harvey (1578-1657) discovered the circulation of blood.	--Established principles of research --Development of the field of hemotology --Introduced field of experimental psychology
4.	1751--First hospital providing care for the acutely ill was established in America;Benjamin Franklin became the first hospital administrator.	--Established charges for hospital services --Concentrated resources and personnel to provide treatment and care
5.	1757--Dr. Lind discovered citrus fruit prevented scurvey.	--Prevention and control of scurvey
6.	1777--Antoine Lavoisier, (1743-1794) known as the "Father of the Science of Nutrition," discovered oxygen.	--Use of oxygen therapy --Established nutrition as a profession --Established principles of respiration
7.	1796--Edward Jenner (1749-1823) discovered small-pox vaccine.	--First contagious disease controlled and practically eliminated
8.	1812--First ambulance used to pick up wounded soldiers during battle instead of waiting until the battle was over.	--Transportation of the sick and injured --First aid for wounded --Emergency rescue services
9.	1820--Florence Nightengale established nursing as a profession.	--Education for nurses --Improved nursing care --Contributed to women's rights
10.	1821--First school of pharmacy was established.	--Pharmacy became a profession --New and more effective drugs

11.	1827--William Prout discovered the body's need for protein, fat and carbohydrates.	--Established need for balanced diets --Nutrition and dietetics began to emerge as a profession
12.	1897--Eykman discovered beri beri could be prevented by the use of whole grain rice.	--Established relation of food to specific diseases --Prevented and controlled beri beri
13.	1838--Berzelius discovered that iron in hemoglobin makes it possible for blood to carry oxygen.	--Extended lives of people suffering from iron deficiency anemia
14.	1846--William Morton discovered anesthesia.	--Development of surgical procedures
15.	1848--Pasteur (1822-1895) discovered the "germ" theory.	--Established a cause of contagious and infectious diseases --Pasterization of milk --Food preservation --Clean water supply --Introduced bacteriology
16.	1895--William C. Roentgen (1845-1923) discovered X-ray.	--Development of radiology --Improved methods of diagnosis --Treatment for cancer
17.	1911--Vitamins discovered--these were first called accessory factors.	--Prevented and controlled diseases such as: rickets, beri beri, night blindness, skin diseases, etc.
18.	1945--Sir Alexander Fleming discovered penicillin.	--Dramatic changes in treatment of infections --Reversed leading cause of death from pneumonia and outside infections to chronic diseases
19.	1946--Splitting of the atom	--Nuclear medicine --Cobalt treatments
20.	1960--First organ transplant	--Kidney and heart transplants

JOHN IS BITTEN BY A RABID DOG

It was about six o'clock in the evening when it happened. John and I were taking our time walking home after our team, The Tigers, had won their fourth straight game. All the way from the ball park we had been replaying the game.

As we approached my house, a big German Shepard suddenly appeared in front of us snarling and baring his teeth. We had been so excited about the possibility of winning the championship that we were almost upon him before we realized he was there.

When I think back to that evening, it seemed that the big dog appeared out of nowhere. I was pretty sure the dog didn't belong in the neighborhood. He didn't look friendly, and the way he was growling made me kind of nervous. John said, "I think that dog looks kind of sick." I thought he looked sort of strange myself, but I was thinking so much about how we were going to get past him that I didn't take a close look to really see if he was sick. Dad had always told me to keep calm when I was around animals. He said the animals could sense how a person felt about them and they didn't usually bother people unless they sensed fear and were afraid that someone was going to hurt them.

John looked at me and bit his lip. I knew he was as scared as I was, and even though I was trying hard not to show it, he knew that I was scared too.

It seemed to me, we stood there for a long time watching the dog and trying to figure out what to do. All the time the dog continued a low growl, and I was trying awfully hard to appear calm. I finally decided that maybe we should try and get some help.

"Let's see if Mr. Brewster is home," I suggested because his house was nearest to us.

"O.K." John replied and started to take a step forward. Then suddenly it happened. Quick as lightening the big dog lunged forward and sank his teeth in John's leg. Mr. Brewster must have heard our yells because he dashed out of his house. When he saw what was happening, immediately he ran to assist us and to make the dog turn loose of John's leg. I thought sure the dog was going to turn on Mr. Brewster, but instead he darted off down the street.

By this time, Mom had heard us and came to help. I told her that I was all right, but we had better do something for John. She took over then and with Mr. Brewster's assistance got John into our house. It didn't take much to tell that John was badly hurt. His pant leg was ripped and his leg was bleeding. As soon as we were in the house, Mom began right away to clean the bite, while Mr. Brewster called the police and reported the dog. Then he called John's parents and told them what happened. John's mother must have been terrified because I heard Mr. Brewster tell her, "Now everything will be all right. Mrs. Johnson and I will take him to the hospital emergency room. Why don't you call your doctor and then meet us there? That way we can save some time."

She must have agreed because the next thing I knew they were ready to leave. Mom didn't want me to go, but I guess when she saw how worried I was she changed her mind and said I could go with them.

We arrived at the hospital emergency entrance and John's parents were waiting for us. This was the first time I could remember ever being inside of a hospital. I'm not sure what I expected. I guess I thought that the doctors and nurses would be waiting for John and start right away to take care of him.

Instead, the first person we saw was a lady that asked John's parents a lot of questions like how old John was, where he was born, where did he live, and what kind of work Mr. Carsons did. Then Mr. Carsons had to sign some papers. After that, a nurse who had been standing by took John away. She let his parents go with him, but told me that I would have to wait in the reception room with Mom and Mr. Brewster.

I guess I was so worried about John that I didn't pay much attention to the things going on in the hospital. I heard someone ask the lady at the desk if the police had found the dog. She told them yes, that the police had called and the dog was now at the small hospital where the veterinarian had it under observation for rabies. I suddenly realized this place was like a beehive and began noticing things were happening. Sirens blaring, an ambulance pulled up and the driver brought a patient in on a stretcher. The person must have been awfully sick, because there was a lot of people doing something for him. A lady was sitting in a wheel chair and another person was holding her head with both hands. Nurses and doctors were constantly moving up and down the hallway. I wondered if it was always this way or if there had been an accident somewhere.

It seemed like it took for ever to get John fixed up. When he finally came out where we were waiting, the doctor came with him and asked me if I had any contact with the dog. When he found I had not, he told John and his parents that they would be hearing from him soon. "If the dog is all right," he said to Mom, "we will have nothing to worry about." Then turning to John he said, "That wound should be healed in plenty of time for you to help the Tigers grab the championship."

The next day the paper had a front page story about John and the possibility of a rabies epidemic. John had to stay home from school, and that evening I went over to see how he was getting along. He was sure down in the dumps having to miss ball practice and not seeing his friends. To cheer him up about missing practice and school, I said, "Hey, have you thought about how many people got involved in your dog bite?"

"Aw," he said, "doctors and nurses at the hospital are the only ones."

"Yeah," I said, "did you ever stop to think about the other people?"

"What people are you talking about?" he asked.

"Well," I said, "the police for one. They had to find and capture the dog."

"That's right," he said, "guess I hadn't thought about them."

"What's more," I went on, "what about the small animal hospital where the veterinarian is keeping the dog for observation? Then your mom had to buy medicine from the druggist and what about the newspaper, the radio, and the TV stations' reporters that are doing all news reports about you and the dog. Then I heard Dad tell Mom that the public health director was watching the situation."

After talking about the people who were helping and what they were doing. John seemed to cheer up a bit. We talked awhile longer and then I told him I would be over tomorrow.

The next morning the paper had a big headline about the dog having died and how the veterinarian had sent the dog's brains to the state laboratory to see if it had rabies. I called John before I left for school, and he told me the doctor had called his parents and told them about the dog dying, and that as soon as the tests were back, we would know if he had to have rabies shots.

When the tests came back that the dog really did have rabies, the newspapers, radio, and TV really played it up big. It was on a Saturday, and it seemed like every thirty minutes the radio and TV were advising people to keep their pets home and be sure they were vaccinated. People were told what to look for if their pets got sick and be sure not to handle any strange animals. The doctor started giving John rabies shots that day. All this publicity made me even more curious about all the people that had something to do with John's dog bite, so I did some more investigations. What I found sure surprised me.

First, I found out that when people have rabies shots that is called the Pasteur Treatment. It seems that the man who discovered how to pasturize milk discovered how to prevent rabies. Another thing I found out was that our health department wasn't the only one that was interested in John's dog bite. The test was done by people who worked in the State Public Health Laboratory. We even have a National Communicable Disease Center in Atlanta that is interested. It seems this center has the responsibility to track down diseases that are catching. This center has people working to study diseases and how they can be prevented. Even though these people don'g know John, it seems that they are right there working to help him and all the rest of us.

Well, it took about three weeks before John was back playing ball. It took a lot of practice before he was back to his old batting average. In spite of loosing a few games, the Tigers were in the lead for the championship game playoff.

It seemed as though everybody in town turned out for the Tigers vs. Bearcats playoff. I saw Dr. Martin give John a victory sign. One of the policemen that had captured the dog was there too. Things didn't go well for our team until the fourth inning. Then John hit a grand-slam and put us ahead of the Bearcats by two runs. During the fifth inning, I pitched a few low curves. Although I struck out a few of the batters, the Bearcats tied up the score.

It was the last inning, and the crowd was sure yelling when John got up to bat. There were two men on base; John had two strikes. The crowd was dead silent. It really looked bad for the Tigers. I saw the third ball traveling towards John and then I heard a crack. Man, that ball really flew through the air and over the fence into the recreational area. John and both men on base were home safe before the Bearcats could find the ball. The Tigers had won the championship game.

After we got home I told Mom, "Sure is a good thing we have so many people taking care of us, or the Tigers would have been the loosers this year instead of winning two straight championship games in a row."

How My Family Uses Health Services and Goods

Instructions to Students: Make a list of all the health goods and services your family uses and the reasons for using each type of service or health product.

Types of Health Services	Type of Health Goods	Purpose	
		Restore or Maintain Health	Protect Health

Play

Community Action to Protect People's Health

Setting: City council meeting room

Equipment: Table
Chairs
Flip chart

Points to bring out:
1. The role of public health
2. Attitudes toward health
3. Community's responsibility to protect health

Characters: Mayor Cartwell
Councilmen: Jones
Bennett
Carson
Martin
Davidson
Parks

Recording secretary
Public health officer: Dr. Radcliff
Citizens I Mr. Belt
II Mrs. Jetter
III Mr. Irvine
IV Mrs. Raney

Community Action to Protect People's Health

Place: City council room

Time: 7:00 P.M.

Scene: The mayor and city council members are seated around the council table. A secretary is present to record the minutes of the meeting. The topic of the meeting is the annual budget. Dr. Radcliff, local health officer, and a number of other citizens are also present. The mayor has called the meeting to order.

Mayor Cartwell's address to audience: "It is a pleasure to see so many people here tonight. As you all know the council is meeting to decide upon the budget for the public health department. If it is agreeable with everyone we will dispense with the reading of the minutes and get right to the business of deciding on Dr. Radcliff's budget request."

Councilman Bennett: "I so move."

Councilman Jones: "I second the motion."

Mayor: "It has been moved and seconded that we dispense with the reading of the minutes. Any discussion?" (The mayor waits for a response. As everyone remains silent, he calls for a vote. All councilmen say "aye." The meeting proceeds. The councilmen begin shuffling papers and examining the figures that Dr. Radcliff has given them.)

Councilman Parks speaks: "It seems to me that Dr. Radcliff is asking for an exorbitant amount of money."

Councilman Davidson replies: "I quite agree." (He pauses, then continues.) "If this budget is approved we would have to raise taxes another ten percent." (Dr. Radcliff indicates he wants to speak. The mayor recognizes him and Dr. Radcliff begins to speak.)

Dr. Radcliff: "Honorable Mayor and Councilmen, I realize the amount of money requested is more than other years. However, I would like to point out that recent community health conditions in Central City have been deteriorating and action is needed if we are to have healthy citizens."

Councilman Carson: "Seems to me that I see a lot of healthy people around. If any one gets sick we have a fine hospital where they can go to get well."

Dr. Radcliff: "If you will excuse me for saying so Councilman Carson, our goal should be to keep people well.

Councilman Carson: "Humph, humph, I suppose so. But, the city can't afford to spend 1.5 million dollars on health services."

Mr. Belt speaking in an angry tone: "I wish to point out to councilman Carson that if money isn't spent for health purposes then the city is headed for a lot of trouble. Five children in one neighborhood have already been bitten by rats. We have had three cases of meninginitis in another neighborhood."

Councilman Bennett: "I sympathize with the problems, but it's imperative that we have new streets, and money has to be spent for some new parks."

Mrs. Jetter: "In other words councilman, streets and parks are more important than people's health."

Councilman Bennett: "Now, now, Mrs. Jetter, I wouldn't say that. It's just that $50,000 is too much to spend on rodent control when we need so many other things for our city. As far as the meninginitis is concerned, I believe the source of this disease has already been taken care of so we don't need to worry about that anymore.

Councilman Davidson turning to mayor, "Why not have Dr. Radcliff explain his reasons for wanting so much money?"

Mayor Cartwell speaks to Dr. Radcliff: "Let us hear your explanation for the budget request."

Dr. Radcliff stands up and moves to flip board. (He has brought with him charts and graphs to illustrate results of a recent survey. Dr. Radcliff begins to speak.) "What, I am about to show you is a result of a recent survey we conducted concerning our community's health needs." (Points to first chart). "During the past two years there has been a five percent increase in infant death rates and a two percent increase in infants born with mental retardation. The nurses' follow up on these cases clearly indicates the chief reason to be a lack of the expectant mother's knowledge and understanding of nutrition and prenatal care. We must have resources to expand our maternal and well child clinics if we are to have healthy future citizens. Next, approximately fifty percent of our high school students have a venereal disease. Our department has managed to treat thirty-five percent of these cases, but unless more efforts are made to find and treat every case we will continue to have a high rate of venereal disease."

Councilman Bennett interrupts and asks Dr. Radcliff, "Aren't your figures misleading? This is the first time I've heard of any such problems."

Mrs. Raney speaks: "I'd like to back up Dr. Radcliff's report. Anyone who reads the paper would know about the severity of venereal diseases. As for the maternal and infant problem, well I've been working with a great many expectant mothers and I can assure you the problem is acute."

Mayor Cartwell: "Let us have Dr. Radcliff continue."

Dr. Radcliff: "We have an increase in respiratory diseases due to air pollution."

Councilman Jones interrupts. "You mean due to smoking don't you?"

Dr. Radcliff: "Smoking may be part of the problem. But I would remind the councilman that during the ten days the city was shrouded in smog we had twenty-five cases of smog-related respiratory diseases. Ten of these cases were elderly people. The other fifteen are still incapacitated and unable to work."

Councilman Parks: "Well, we certainly can't make industry mad at us."

Mr. Irvine jumps to the floor. "What do you mean make industry mad? The clean air act was passed almost ten years ago. Why haven't our industries complied with the law?" (At this point everyone starts talking. The citizens are shouting angry words at the councilmen, who in turn try to defend their position. It takes the mayor nearly five minutes to restore order.)

Mayor Cartwell speaks after everyone is quiet. "Proceed Dr. Radcliff."

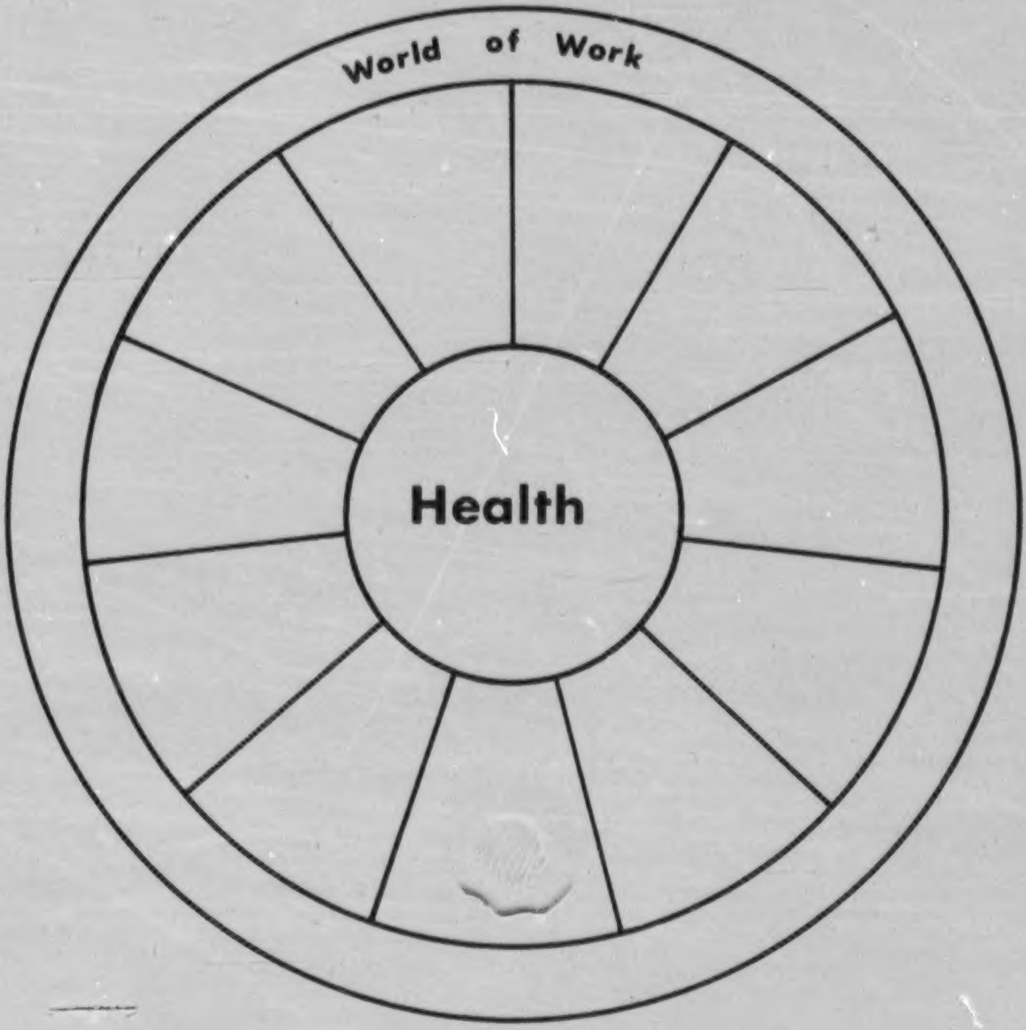
Dr. Radcliff: "There is a great deal of work to be done on our sanitation facilities. True we have meninginitis under control, but tomorrow we may have an out break of infectious hepatitis, typhoid or amebic dysentary. The city's sanitation is obsolete. Keep in mind, our population has more than doubled but nothing has been done about increasing our sanitation facilities." (Everyone in the room begins talking again. The mayor and councilmen are huddled in a group discussing the situation.)

Councilman Bennett and Carson are opposed to spending money to improve the sanitation system. Finally the mayor speaks.

Mayor Cartwell: "Let us put the question to the people here." (Then he asks everyone to be quiet and speaks). "Which would you rather have, new parks or see the money spent on protecting the people's health?" (Everyone cries out, "We want a healthy community." After this the budget is approved.)

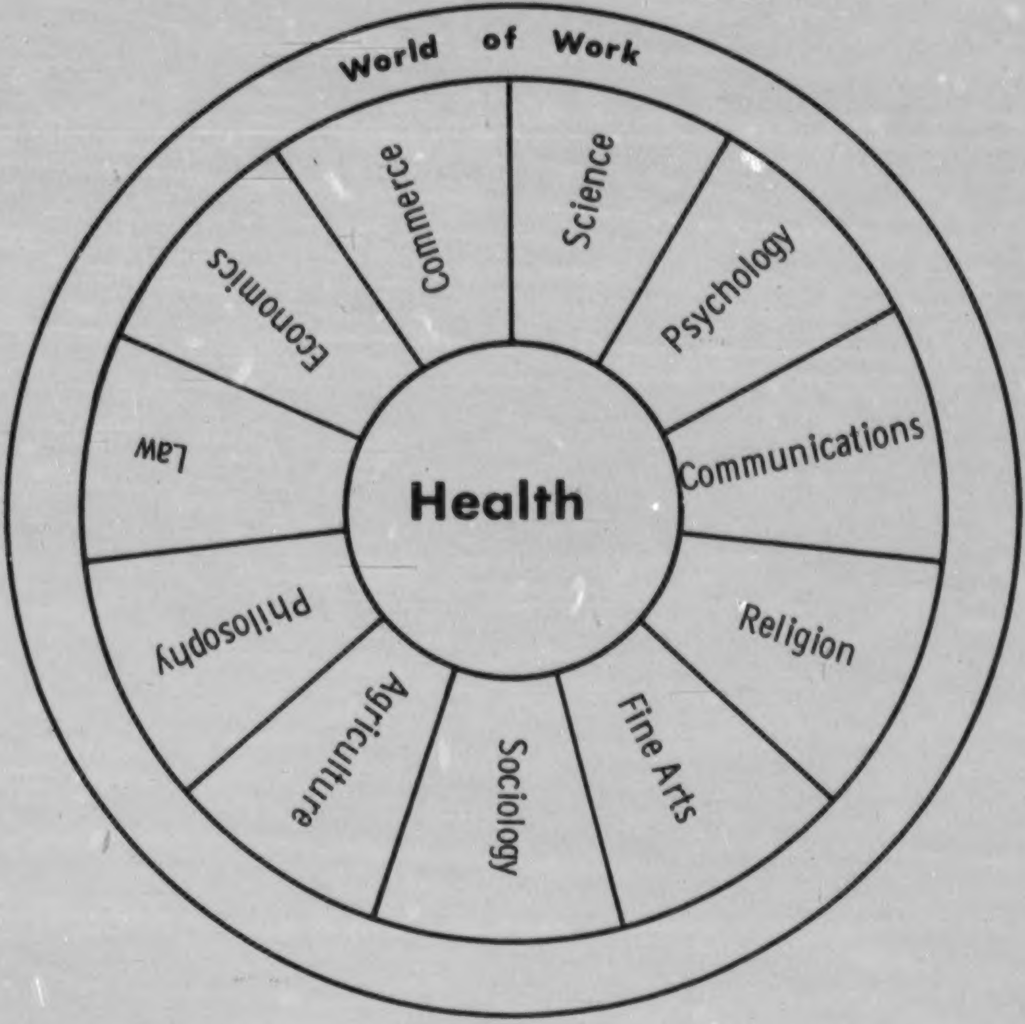
Relationship of Different Areas of Work to Health

Write in the different areas of work that is related to the health services.



Relationship of Different Areas of Work to Health

(Teacher's Copy)



Health Technology and Its Results

Examples of Health Technology	Emergence of New Health Occupations
1. Electrocardiograph Machine	E.K.G. Technician
2. Electroencephalograph Machine	E.E.G. Technician
3. Radioscopic Equipment a. scintillation detector b. scanners	Nuclear Medical Technologist
4. Heart-Lung Machine	Heart-Lung Technician (Note: May be called Extracorporeal Technician.)
5. Kidney Dialysis Machine	Dialysis Technician (Note: May be called Extracorporeal Technician.)
6. Vectorcardiograph, Vasograph	Cardio-Pulmonary Technician
7. Intermittent-Positive-Pressure Breathing Machine (Bennett Machine)	Pulmonary-Function Technician Respiratory Therapist
8. Radiation Equipment	Cobalt Technician Radiotherapy Technician Hyperboric Chamber Technician
9. Computers and Data Processing	Program Analyst Systems Analyst Computer Operator
10. Artificial Sources of Radiation	Radiological Health Specialist Radiation Technician

Health Leads Employment

(Editor's note: This is the third of a three-part series which surveys where people work in Central City. This week's story reports on the number of people who are presently working in some type of job in the health delivery system.)

April 2, 1973: One out of every ten persons now working in Central City has a job in some area of health. While the greatest number of these people are local citizens, approximately two hundred people live in one of the small towns in the area and drive to and from work everyday.

Employment in the health field has steadily increased during the past two decades. Some of this increase in jobs is attributed to the fact that Central City is serving a greater area of the southwest region of the state due to the new highways that have made travel much easier and faster. Because of this, health services in Central City have become more accessible to a greater number of people. Although the city's population has remained a stable 12,000, the health delivery system is now serving between 20,000 to 30,000 people who live in the county and surrounding area.

Mr. Anderson, Administrator, points out that since 1950 Methodist General has increased more than three times its original size. "Every time we build a new addition," he said, "it opens up many more jobs for people. Frankly," he went on to say, "we are often hard pressed to find qualified people to work, especially the clinical personnel. It has become a case of continuous recruitment. Of course, another reason we need more staff," he continued, "is the many changes that have been taking place calling for health workers with special types of skills. We have budgeted jobs that weren't heard of ten years ago."

Dr. Kirby, Superintendent, compared the number of people now working at the state hospital with the number on the payroll five years ago. "We have been able to double the number of staff," he said, "and still need more people to give the kind of care we would like to give our patients. Our three biggest departments--nursing, dietary, and maintenance," he pointed out, "employ the most people. However," he went on to say, "we have added a number of new services and opened a mental health clinic for outpatient services which is requiring a greater number of health workers."

Another reason for the increase in jobs for health workers has been the continued expansion of the Kimber's Clinic and the ability of Dr. Kimber to bring in specialists in several fields of medical practice. These physicians, along with others in town, employ a number of nurses, medical assistants, X-ray technicians, laboratory technicians, medical secretaries, and record librarians. In addition, a dietitian and social worker are also employed.

In addition to the hospitals and doctors' and dentists' offices, Central City has three nursing homes, an expanding public health department, and a new small animal hospital. Melbourne Oil Refinery is looking for people to set up an occupational health program in order to comply with the

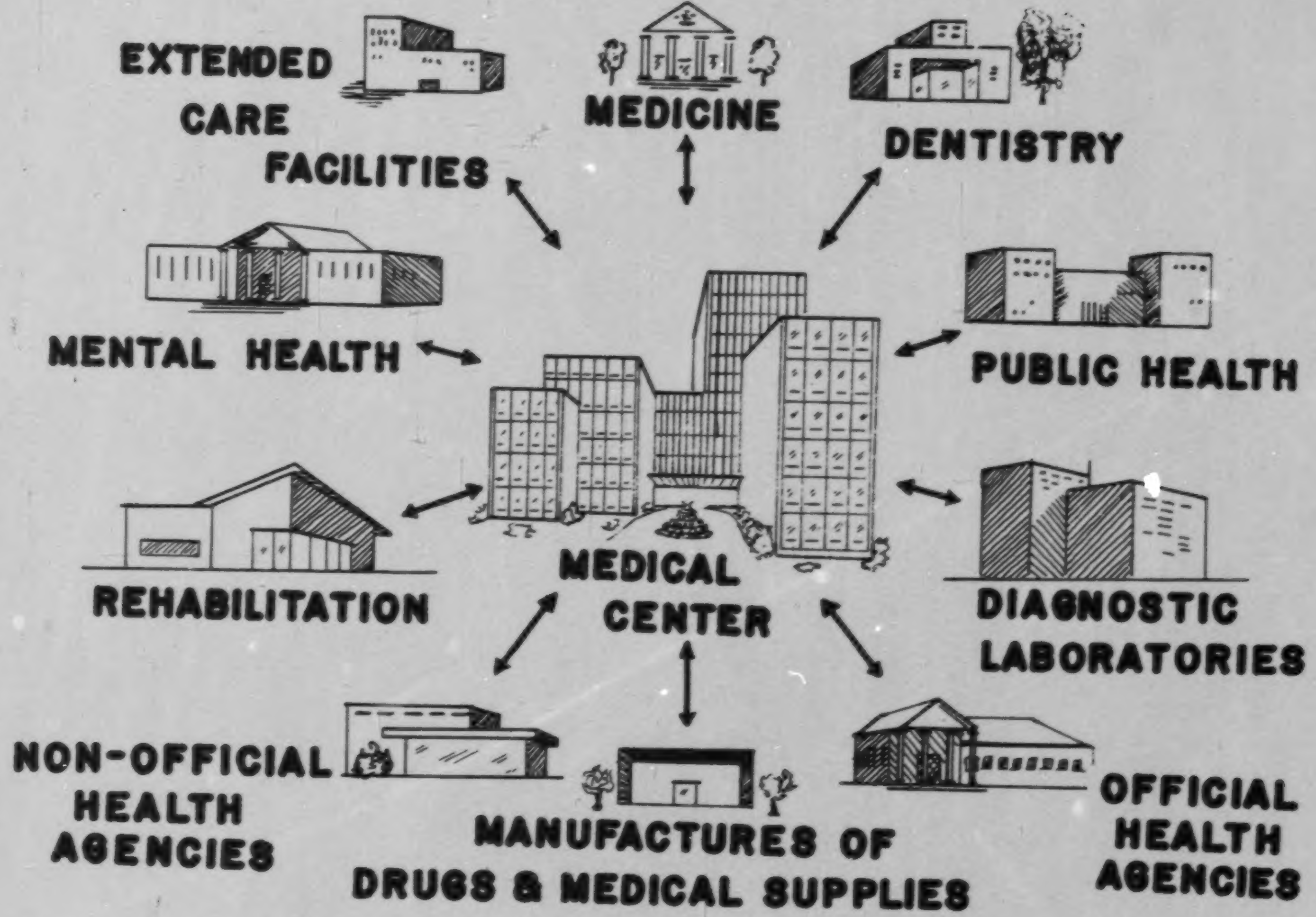
Occupation Health and Safety Act regulations.

Mr. Evans, Superintendent of Schools, is adding a school nurse and dental hygienist to the staff this year. The dental laboratory has been expanding. Three dental technicians are being kept busy with the work of local dentists and those in the surrounding area.

Here is the breakdown of where people work in the health delivery system.

Methodist General	450
State Mental Hospital	850
Kimber's Clinic	75
Other physicians	30
Dentists	20
Public School	2
Public Health	15
Red Cross Unit	2
Optometrist	2
Pharmacist	5
Veterinarian	2
Small Animal Hospital	5
Total	1,458

COMMUNITY SERVICES



EXTENDED
CARE
FACILITIES

MEDICINE

DENTISTRY

MENTAL HEALTH

PUBLIC HEALTH

REHABILITATION

MEDICAL
CENTER

DIAGNOSTIC
LABORATORIES

NON-OFFICIAL
HEALTH
AGENCIES

MANUFACTURES OF
DRUGS & MEDICAL SUPPLIES

OFFICIAL
HEALTH
AGENCIES

ROHMORE INST. MATL. LAB., U.K. 999-1

Survey Form

Survey of Community Health Facilities, Agencies and Business Organizations Providing Health Services and Products

Here is a list of health facilities, agencies, and other organizations that provide health services and products. In column one, write in the classification as this relates the organization's primary functions. In column two write in the ownership-public (tax supported) private or voluntary association.

1. Hospitals
   a. Community
   b. State hospitals
   c. Federal hospitals
   d. Others
2. Nursing homes
3. City or county health dept.
4. Medical laboratory (including x-ray)
5. Clinics
6. Environmental health agencies
7. Optical company
8. American Red Cross Association
9. World Health Organization
10. Pharmacy (drug store)

11. Medical supply company		
12. Small animal hospital		
13. American Cancer Society		
14. School health		
15. National institutes for health		
16. Offices		
17. Rescue units		
18. Health Planning Council		

UNIT TWO

EXPLORATION OF HEALTH CAREERS
IN
COMMUNITY HEALTH PROTECTION

UNIT PURPOSE: To provide students with activities to help them identify jobs, requirements for entry, and personal qualifications for the various jobs in community health

PERFORMANCE OBJECTIVES: The student will be able to

I. Identify five types of jobs, their purposes, and requirements for entry into environmental and occupational health occupations.

II. Explain four ways health workers adapt skills to provide direct public health services (medical, dental, nursing, dietary, etc.)

III. Describe mental health/mental retardation services and five types of health careers in this area of health.

IV. Name and describe at least three jobs related to communicable disease control.

V. Explain the purpose for health statistics and types of jobs available in this kind of health service.

NOTE TO THE TEACHER:

"Suggestions for Integration of Content in Junior High Science and Health Courses" can be found on p. 73 of Supportive Materials for Unit Two.

I. The student will be able to identify five types of jobs, their functions, and requirements for entry into environmental and occupational health occupations.

A. Suggested Content

1. Types of services

   a. Community health protection

      (1) Sanitation
      (2) Water and air pollution
      (3) Control of rodents and insects
      (4) Purity of food

   b. Workers health protection

      (1) Hazards on the job
      (2) Safety measures to prevent accidents
      (3) Emergency and first aid treatment

2. Types of jobs

   a. Environment

      (1) Food and drug inspector and analyst
      (2) Sanitarian
      (3) Hospital engineer
      (4) Sanitary engineer
      (5) Radiological health specialist
      (6) Environmental technician

   b. Occupational health

      (1) Industrial engineer
      (2) Safety engineer
      (3) Industrial physician
      (4) Industrial nurse

3. Employment opportunities

   a. Government agencies (local, state, and federal)

   b. World health organizations

   c. Industrial plants

   d. Private business and agencies

4. Requirements for entry

   a. Education

   b. Leadership qualities

        c. Be able to work with people

        d. Licensure and certification

    5. Self-evaluation

        a. Attitudes

        b. Interest and abilities

        c. Personality

B. Suggested Teaching-Learning Activities

1. Divide class into small groups. Have each group brainstorm what environmental health means. Use group's summary to formulate a definition of environmental health.

    Note to teacher: The following are suggested activities for teaching health careers in the area of environmental health services.

    a. Use transparency, "Environmental Health," p. 74 and discuss types of environmental health occupations.

    b. You might investigate the possibility of students being able to spend a day with people employed in your city's sanitation and water departments to observe the type of work that is performed in these areas. Students should report to the class about their experiences.

    c. Have the students interview or observe on the job a plumbing inspector and/or sanitarian, having them to direct their questions toward environmental problems that these people work with on their jobs. (Possibly the sanitarian is also responsible for inspection of food service establishments and rodent control.)

    d. Have the students perform different types of procedures and explain why jobs in environmental health are important to protect health. For example, duplicate and hand out steps for performing soil perculation test and air pollution test. See "Soil Perculation Test" and "Air Pollution Test," pp. 75-76.

    e. Ask the students to search through newspapers and magazines for articles on environmental problems and needs, and discuss these problems as they relate to health occupations in environmental health.

        or

        Use transparency, "Water Pollution" or "RX for Trouble," pp. 77-73 and discuss needs for environmental health workers.

f. Suggest to students that they write to the Atomic Commission for information on radiation and health.

g. Show a film on environmental health. For example: "Radiological Safety," "Engineering Your Health," or "Plant Health Program." Have a question-and-answer session following the film with emphasis on what the people are doing.

2. The following are suggestions for teaching food and drug protection occupations.

   a. Think back to recent events involving deaths from food poisoning; for example, the botulism incident. Discuss reasons why we need to protect our food supply.

   b. If you have a conference telephone in your school, ask the students to write the following: Director of the United States Food and Drug Administration, U.S. Office of Health Education and Welfare, Director of the Meat Inspection Branch, U.S. Department of Agriculture, or the Director of State Sanitary Services, Department of Human Resources and arrange for a conference interview. Assist students to prepare questions to be asked regarding these services, and what food and drug inspectors do on the job.

      or

      Invite a state or federal drug inspector to be a guest speaker.

   c. You might have the students visit a meat market to look for the seal of approval that is stamped on the meat and write a short paper about the reasons this stamp is on the meat.

   d. Arrange for a field trip to a local dairy for students to learn about regulations governing the processing and sale of milk as these laws relate to health protection.

      Note to teacher: If you are unable to arrange a field trip, assign one or two students to visit the dairy and report back to the class.

   e. Have the students prepare a mural for the blackboard depicting the functions of FDA and roles of its inspectors and researchers.

3. The following are suggestions for teaching health careers in occupational health.

   a. Appoint three or four students to prepare a panel discussion on the need to protect the working person's health.

   b. If you have an industrial plant with a health unit in your community, make arrangements to invite the plant safety engineer and the physician or nurse to speak to the class.

   c. Cut a sponge into the shape of a lung. Force dirty water through sponge. Ask students to evaluate changes and apply the information to the way their own lungs accumulate polluted matter from air and industrial jobs.

4. After students have examined jobs in environmental and occupational health, ask those who are interested in these occupations to analyze self for a potential career in one of these health occupations.

5. The following are suggestions for integrating health careers in other junior high courses.

   a. Ask the social studies teacher to have students study the impact of the establishment of the Food and Drug Administration on people's health and welfare.

   b. Ask the language-arts teacher to have the students write a business letter requesting information on environmental and occupational health occupations.

   c. Ask the math teacher to have students work a temperature conversion problem (from Fahrenheit to Centigrade) to demonstrate the relationship of temperature to food spoilage and pasterization of milk.

   d. Ask the art teacher to have students prepare a poster depicting the different hats a sanitarian may wear.

C. Suggested Evaluation

1. Each student should indicate his knowledge of the environmental and occupational health occupations by preparing a collage of the types of occupations, roles of each occupation, and their equipment. (Judge from the standpoint of diversity of occupations included, correct equipment, and roles of personnel.)

2. Have each student place himself in the role of a personnel officer in a community health agency and interview another student for a job in environmental and occupational health they would most like to hold in the community health area. (Evaluate each student relative to the occupation being interviewed, educational and personal qualifications, job roles and functions.)

D. Suggested Resources

1. Pamphlets (Obtain pamphlets from the following associations.)

   - a. American Association of Industrial Nurses
   - b. American Industrial Hygiene Association
   - c. American Society of Safety Engineer
   - d. Conferences on Radiological Health
   - e. Institute of Food Technologists
   - f. U.S. Atomic Commission
   - g. U.S. Department of Labor

2. Films
   - a. "Radiological Safety"
   - b. "Plant Health Program"
   - c. "Engineering Your Health"

3. Resource Persons
   - a. City sanitarian
   - b. Industrial (plant) nurse
   - c. Plant safety engineer
   - d. Public health environmental engineer
   - e. State or federal food and drug inspector

4. Student Materials
   - a. "Soil Perculation Test," p. 75
   - b. "Air Pollution Test," p. 76

5. Transparency Masters
   - a. "Environmental Health Careers," p. 74
   - b. "Water Pollution," p. 77
   - c. "RX for Trouble," p. 78

II. The student will be able to explain four ways health workers adapt skills to provide direct public health services (medical, dental, nursing, dietary, and laboratory).

A. Suggested Content

1. Types of services offered
    - a. Maternal and child health
    - b. Family planning
    - c. Dietary counseling
    - d. Home health care
    - e. School health
    - f. Follow-up care
    - g. Chronic disease control
    - h. Social services
2. Types of jobs providing direct public health services
    - a. Physicians (public health officer)
    - b. Dentists
    - c. Dental hygienists
    - d. Public health nursing
        - (1) Professional nurse
        - (2) Licensed practical nurse
        - (3) Nurse midwife
        - (4) Home health aide
    - e. Public health nutritionist and aides
    - f. Health educators
    - g. Social workers
    - h. Administrative workers
        - (1) Administrative assistant
        - (2) Program analyst
        - (3) Clerical workers
3. Employment opportunities
    - a. Government agencies (local, state, and federal)

b. World health organizations

c. Public and private schools

d. Community action agencies

e. Voluntary health agencies

4. Requirements for entry

    a. Basic education

    b. Interest in social needs

    c. Specialization

    d. Certification & licensure

5. Self-assessment

    a. Attitudes

    b. Interests and aptitudes

    c. Personality

B. Suggested Teaching-Learning Activities

1. When introducing this unit, have a discussion on opportunities for health workers to adapt their skills to work activity in community health. Enlist the aide of health workers in your county public health department and your school nurse to help you with this information.

2. Have students research and prepare a role-playing activity depicting different ways health workers adapt their skills to community health. For example:

    a. A professional nurse as a public health nurse in a maternal and child health clinic or as a midwife

    b. A professional nurse and a home health aide visiting a home to give care to a person who has a chronic disease (heart trouble, cancer, diabetics)

    c. The physician is a public health officer and administrator

    d. The nutritionist's role in chronic disease control and helping people plan diets

    e. The dentist and his role in caring for people's dental problems

    f. The dental hygienist and her role in helping school children and adults learn good tooth brushing techniques and dental hygiene

3. Make arrangements with your school nurse to have her demonstrate and involve students in giving eye and hearing tests.

4. Divide students into two groups. Ask Group One to take a diet history from those in Group Two. After taking the diet history, have Group One work with the students in Group Two to plan a well-balanced diet.

5. Plan and arrange for the class to visit a county or city public health department.

6. Show transparency, "Social Services," p. 79 and discuss these health occupations.

7. Have students role play a situation in which a social worker is helping a family find resources to provide treatment for a handicapped child.

8. Show film. For example, "The Home Health Aide," or "The Search for Meaning," or "Where It Hurts." Follow with a discussion of what the health worker is doing.

9. Have the student design a form to obtain basic information for a family-planning clinic. You may secure a sample form from your local public health department to be used as a model.

10. Have students invite the city or county public health officer and several members of his staff to give a panel discussion on long-range planning for community health protection.

11. Appoint three or four students to develop a panel discussion on the importance of interests and aptitudes in making decisions about being a health worker in community health.

12. Students might develop and present to the class a three-minute picture story depicting the kind of health worker they would want to take care of them.

13. Suggested activities for integrating these health occupations in other classes:

    a. Ask the language-arts teacher to have students write a letter to the Secretary of Health, Education and Welfare requesting information about the most current health problem in the United States.

       or

       Have students write and present a television program to discuss what direct public health service is available in their county or city.

b. Ask the math teacher to have students plot an infant growth chart converting pounds into kilograms and inches into centimeters. Explain the use of this instrument as a continuous growth record. See pp. 80-85 for "Plotting of Growth Charts."

c. Ask the social studies teacher to have students select a neighborhood and study the impact of socio-economic problems on health and receiving health services.

d. Ask the art teacher to have students devise posters illustrating home health care versus hospital care.

C. Suggested Evaluation

1. Have students select one person they would like to interview and/or shadow in the community health area and report to the class on their observations of how these workers give direct services to people. (Evaluate their ability to interview as well as the type of information they obtained.)

2. Have students complete "Community Health Crossword Puzzle," pp. 86-87.

D. Suggested Resources

1. Books

   a. Health Careers Guidebook

   b. Focusing on Health, Ch. 4, 21, 22

2. Pamphlets (Write the following associations for information.)

   a. American Dietetic Association

   b. American Institute of Nutrition

   c. American Public Health Association

   d. American Social Health Association

   e. Kentucky Public Health Human Resources Commission, Division of Nutrition Services

3. Films

   a. "Home Health Aide"

   b. "Jenny Is A Good Thing"

   c. "Journey into Health"

   d. "The Search For Meaning"

   e. "Where It Hurts"

4. Resource Persons

   a. School nurse

   b. Public health nutritionist

   c. Social worker

5. Student Materials

   a. "Community Health Crossword Puzzle," pp. 86-87.

   b. "Plotting of Growth Charts," pp. 80-85.

      (1) "Height," pp. 82-83.
      (2) "Weight," pp. 84-85.

6. Transparency Master

   a. "Social Services," p. 79.

III. The student will be able to describe mental health/mental retardation services and five types of health careers in this area of health.

A. Suggested Content

1. Types of services

   a. Mental hygiene

   b. Drug addiction and alcoholism

   c. Treatment and care of the mentally ill

   d. Family services

   e. Rehabilitation of mentally and/or physically handicapped

2. Types of jobs

   a. Psychiatrist, neuro-psuchiatrist

   b. Pschologist: clinical, school, social, counseling

   c. E.E.G. technician

   d. Psychiatric nurse

   e. Psychiatric social worker

   f. Occupational therapist

   g. Music therapist

   h. Psychiatric social worker

   i. Manual arts therapist

   j. Recreational therapist

   k. Dietitian

   l. Speech therapist

   m. Audiologist

   n. Psychiatric chaplain

3. Places of employment

   a. Mental health clinics

   b. Comprehensive care centers

   c. Half-way houses
   d. Psychiatric hospitals
4. Requirements for entry
   a. Education
   b. Knowledge of human behavior
   c. Interest in people
   d. Be able to work objectively with people
5. Self-assessment
   a. Attitudes
   b. Interest and abilities
   c. Personality

B. Suggested Teaching-Learning Activities

1. When introducing jobs in mental health, ask students "Why do we need mental health services?" After students have discussed this question, point out the increase in mental illness during periods of crisis such as wars, unemployment, and following destructive storms.

2. Show transparency, "Mental Health" p. 88 and discuss types of health careers in the field of health services.

3. Identify differences in psychiatrist, neuro-psychiatrist, and psychologist.

4. If you have a mental health clinic in your community, invite the director and some of his staff to talk with the students about their work in mental health.

5. Ask students to select two or three occupations in mental health and give an oral report on how these occupations function in helping people to handle emotional problems. For example:
   a. Psychologist
   b. Social worker
   c. Psychiatric aide
   d. Psychiatric chaplain

6. If possible, arrange for students to see an electroencephalogram machine. Ask the E.E.G. technician to explain how this machine is used.

7. Involve students in role playing to interview a patient and helping him with a problem.

8. Have students write the regional director of a comprehensive care unit and invite this person to speak on treatment of the drug addict and alcoholic.

   Note to the teacher: Kentucky comprehensive care clinics are given on pp. 89-91 supportive materials.

9. Invite a psychiatric social worker, occupational therapist, music therapist, and manual arts therapist to explain the nature and the requirements of their work.

10. Develop a bulletin board depicting the jobs in rehabilitation. Use illustration, "Rehabilitation" p. 92 to give students guidelines in this activity.

11. Show films. For example; "To Pick A Life," "Target," or the "O.T. Story." Follow with a discussion on how occupational therapy helps to restore mental health.

12. Have students make a list of personal characteristics they would want to see in a person giving mental health services.

13. Suggestions for integrating health careers in other junior high subjects:

    a. Ask the music teachers to help students plan a music therapy program. As this program is being developed discuss ways music therapy helps the mentally ill. Note: The music therapist employed in one of the state hospitals can assist in this project.

    b. Ask the art teacher to help students plan an occupational therapy program using craft materials for a group of children and carry through the program. Follow this with discussion on the need to keep busy as a treatment for mental hygiene.

    c. Ask the language-arts teacher to have student read "Dear Abby" or "Ann Landers" and discuss the number of people who have mental health problems.

    d. Ask the social science teacher to invite a resource person such as a director of a mental health program to talk with the students about changing attitudes in the care of mentally ill and the retarded as these relate to job opportunities in health.

C. Suggested Evaluation

1. Divide students into groups of four to six. Have each group demonstrate different ways mental health workers function in different settings; for example, a state mental hospital, half-way house, comprehensive health clinics, school for the retarded. Evaluate students abilities to demonstrate the relationship of various workers to each other.

2. Have student develop a school bulletin board describing where in their community assistance can be obtained to help a person cope with a mental health problem and who gives this help. (includes alcoholism & drug addiction). See listing of Kentucky's Comprehensive Mental Health Centers, pp. 89-91.

D. Suggested Resources

1. Books
   a. Careers in Medical Science
   b. Health Career Book
   c. Job Descriptions and Organizational Analysis for Hospitals and Related Health Services
2. Pamphlets (Write the following associations for information)
   a. American Psychiatric Association
   b. American Psychological Association
   c. Mental Health Administration, Health Services, PHS
   d. National Association for Mental Health
   e. National Institute for Mental Health
3. Films & Filmstrips
   a. "A Storm, A Strife"
   b. "O.T. Story"
   c. "Target"
   d. "To Pick A Life"
4. Resource Persons
   a. Director of comprehensive mental health clinics
   b. Manual arts therapist

    - c. Music therapist
    - d. Occupational therapist
    - e. Psychiatric social worker

5. Transparency Masters
    - a. "Mental Health," p. 88
    - b. "Rehabilitation," p. 92

IV. The student will be able to name and describe three jobs related to communicable disease control.

A. Suggested Content

1. Type of services
    a. Prevention of communicable diseases
    b. Control of insects, disease carrying animals, etc.
    c. Fact finding
    d. Mass immunization
2. Types of jobs
    a. Microbiologists
    b. Medical laboratory technologist
    c. Bacteriologist
    d. Public health sanitarians
    e. Public health nurse
    f. Veterinarian
    g. Venereal disease inspector
3. Places for employment
    a. Government agencies--local, state, federal
    b. World health organizations
    c. Hospitals
4. Requirements for entry
    a. Education
    b. Willingness to travel
    c. Interest in science
5. Self-assessment
    a. Attitudes
    b. Aptitudes and abilities
    c. Personality

B. Suggested Teaching-Learning Activities

1. You might have the students write to the United States Communicable Disease Center, Atlanta, Georgia for information regarding the control of communicable diseases in this nation and the world.

2. Invite a resource person to talk with the class about the roles and responsibilities of persons working in communicable disease control and how they perform their functions.

3. You might suggest to the students that they interview people in the local public health department; then trace the outbreak of a communicable disease with an explanation of all the people involved in getting this disease under control.

4. Ask the students to listen and look for news reports about communicable diseases and present a panel discussion on the importance of work in the jobs to control these diseases.

5. Divide the class into small groups (four to six students), giving each group a situation they must role-play relating to communicable disease control. The class should have available a good basic health or biological science book and information on community health jobs. Instruct them to relate their situation to the health personnel involved, their jobs and the people to whom they provide services. Some suggestions: 1) venereal disease inspector checking on contacts; 2) public health nurse and/or health officer providing treatment for V.D.; 3) sanitarian who has quarantined a family with a case of meningitis in order to locate the source and prevent spread of the disease.

6. Ask the students to prepare an advertising campaign for mass immunizations against Rubella (German measles), taking into account recordkeeping, permission from parents, scheduling, and the need for the immunizations. They may also prepare a follow-up article for a report on the success of the campaign.

7. Have the students ask the school nurse about types of immunizations before a child can start school.

8. Show films. Select one or two of the following: "Gentle Doctor," "Your Protection Against Disease," "Your Health in the Community," "Bacteria Friend or Foe," "How The Body Fights Bacteria," "Back the Attack of Brucellosis."

   Note: Films regarding communicable diseases including venereal disease may be obtained from the Commission on Human Resources. Formerly State Department of Health.

9. You might arrange a field trip for students to visit a small

animal hospital to learn how animals play an important part in communicable disease protection.

10. Arrange for one or two students to "shadow" a public health sanitarian and report back to class how the person traces a source of communicable diseases.

11. Suggestions for integrating these occupations in other junior high courses:

    a. Ask the social studies teacher to have students read about the Black Death in London during the 16th century and compare the results of this epidemic with the cholera outbreak in Naples, Italy during 1973.

    b. Have students study why we have quarantine laws and when these laws were first introduced.

C. Suggested Evaluation

1. Have students trace an outbreak of communicable disease and tell all of the people involved in checking the disease. Evaluate student's ability to understand how disease is transmitted and people responsible for reporting and controlling these diseases.

2. Have students develop a skit demonstrating the importance of communicable disease control during floods and other types of national disasters. Evaluate student's ability to relate communicable disease control to health workers responsible for this function.

D. Suggested Resources

1. Books

    a. Any general health textbook

    b. Health Career Guidebook

    c. Opportunities in Veterinary Medicine

2. Pamphlets (Write the following associations for information)

    a. American Veterinarian Society

    b. Kentucky Department of Human Resources, Division of Communicable Disease

    c. U.S. Communicable Disease Center

    d. World Health Organization, Division of Communicable Disease

3. Films & Filmstrips

   a. "Back the Attack of Brucellosis"

   b. "Bacteria Friend or Foe"

   c. "Gentle Doctor"

   d. "How Your Body Fights Bacteria"

   e. "Your Health in the Community"

   f. "Your Protectiong Against Disease"

4. Resource Persons

   a. School nurse

   b. Veterinarian

   c. Director, rodent control

   d. Public health laboratory technician

V. The student will be able to explain the purpose for health statistics and types of jobs available in this kind of health services.

A. Suggested Content

1. Types of services

    a. Application to life sciences

    b. Vital statistics

    c. Trends in disease patterns

    d. Planning and evaluating health services

2. Types of jobs

    a. Public health statistician

    b. Public health program analyst

    c. Statistical clerks

    d. Biostatistician

3. Employment appointments

    a. Government agencies

    b. Voluntary health agencies

    c. Industrial organizations

    d. Medical schools

    e. Scientific research institutions

    f. Insurance companies

4. Requirements for entry

    a. Education

    b. Interest in mathematics

5. Self-evaluation

    a. Attitudes

    b. Aptitudes and abilities

    c. Personality

B. Suggested Teaching-Learning Activities

1. Teacher activity: Write the National Center for Health Statistics, U.S. Public Health Services, Department of Health, Education and Welfare, 5600 Fishers Lane, Rochville, Maryland 20852, for information on national use of health statistics for your use in teaching jobs in this area.

2. Assign one or two students to interview the statistical clerk in the county or city health department and report to the class on their observations.

3. Write the State Commission of Human Resources, Division of Vital Statistics, Frankfort, Kentucky to learn what kinds of information they gather in addition to births and deaths.

4. Appoint two students to debate "Should we use health statistics to improve our community?"

5. Invite a guest speaker to speak on the use of health statistics. This may include representative from the Blue Cross-Blue Shield Insurance Company, Social Security agency or any health insurance company.

6. Use transparency to illustrate ways a community's health status is measured using statistical information. See "Indexes to Measure Community Health," p. 93.

7. Suggestions for integrating health statistics in other junior high courses:

   a. Asks the math teacher to have students determine the cost of hospital services in your community. Provide him with this information.

      (1) Present statistics show one out of every fifteen people use hospital services
      (2) National average of hospitalization is about $89.00 per day.
      (3) Give the population in your community

C. Suggested Evaluation

1. Have students write to the Bureau of Vital Statistics for a copy of their birth certificate. After these have been obtained, evaluate student's concept of how statistical accounting is used in health.

D. Suggested References

1. Books

   a. Health Careers Guidebook, pp. 74-76

2. Pamphlets (Write the following associations for information.)

    a. Kentucky Commission of Human Resources, Bureau of Vital Statistics

    b. National Center for Health Statistics, National Institute of Health

3. Resource Persons

    a. Recorder, vital statistics, local health department

    b. Representative, Blue Cross-Blue Shield

4. Transparency Master

    a. "Indexes to Measure Community Health," p. 93

SUPPORTIVE MATERIALS

FOR

UNIT TWO

REFERENCE LIST FOR UNIT TWO

Books

1. Careers in Medical Science, by Diane Seide, Thomas Nelson Inc.
2. Focusing on Health, by Jessie Helen Haag
3. Health Careers Guidebook, U.S. Government Printing Office, $2.25.
4. Job Descriptions and Organizational Analysis for Hospital and Related Health Services
5. Opportunities in Veterinary Medicine, by Robert Swope
6. The Vocational Guidance Manuals Series, Career World Book Services

Pamphlets, Magazines & Booklets

1. "Career Facts About Today's Veterinarian," American Veterinary Medical Association.
2. "F.D.A., What It Is and Does," (pamphlets), U.S. Department of Health, Education and Welfare, Food and Drug Administration.
3. "Occupational Safety and Health Act," Safety Standards, Vol. 20, No. 2, March-April, 1971, United States Department of Labor.
4. "Understanding the Atom," Series, United States Atomic Energy Commission, Division of Technical Information.
   a. "Atoms, Nature, and Man"
   b. "Nuclear Power and the Environment"
   c. "Your Body and Radiation"

Career Information Pamphlets (Write the following associations for information.)

1. American Industrial Hygiene Association
2. American Society of Safety Engineers
3. Conference on Radiological Health
4. Institute of Food Technologists
5. The Public Health Human Resources Commission, Division of Nutrition Services

Films & Filmstrips

1. "A Storm, A Strife," Modern Talking Picture Service, #3556.
2. "Back the Attack of Brucellosis," University of Kentucky, $1.00.
3. "Bacteria--Friend or Foe," University of Kentucky, $2.00.
4. "Engineering Your Health," Public Health Services, Communicable Disease Center, Audio-Visual Section.
5. "Gentle Doctor," Association Films, Inc. Note: Work of the veterinarian.
6. "How the Body Fights Bacteria," local health department.
7. "Jenny Is a Good Thing," (Dietetics), Modern Talking Picture Service, #9273.
8. "Journey Into Health," Modern Talking Picture Service, #3179.
9. "OT Story," American Occupational Therapy Association.
10. "Plant Health Program," Kentucky State Department of Health, Office of Health Education. Note: Occupational Health.
11. "Radiological Safety," AEC Headquarters Film Library, Division of Public Information, U.S. Atomic Energy Commission.
12. "Target," Occupational Therapy Association.
13. "The Home Health Aide," A.N.A. film. ANA/NLN Film Library.
14. "The Search for Meaning," American Dietetics Association.
15. "To Pick a Life," American Occupational Therapy Association.
16. "Where It Hurts," Modern Talking Picture Service, #4399.
17. "Your Health in the Community," University of Kentucky, $2.00.
18. "Your Protection Against Disease," University of Kentucky, $4.00.

UNIT TWO

Suggestions for Integration into Science Courses

The science teacher may wish to utilize this unit during the study of man's influence on nature and nature's influence on man relative to communicable disease, mental health, nutrition, reproduction and sanitation (environmental health).

As you study each of these areas, bring in the health situations in the community that have an impact on nature and man; for example: polluted water and air, its effect on animals and man, scarcity of food stuff and malnutrition, communicable diseases transmitted to man from animals and ecological problems man has caused.

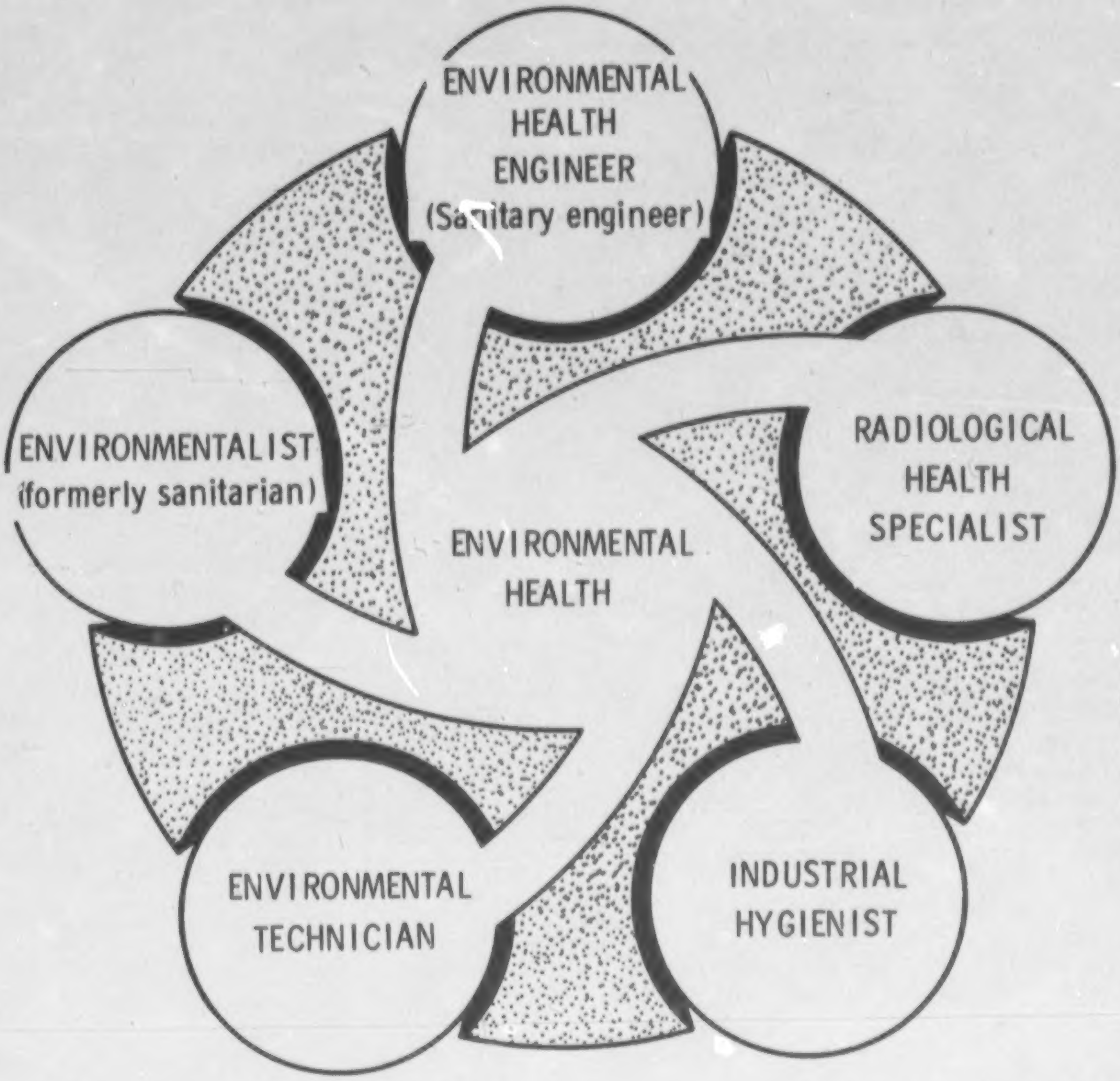
Include the roles of the health workers in preservation of life and how they contribute to maintenance of ecological balance. Also emphasize the direct services provided to meet physical needs of people. Utilize the activities and resources in this unit to directly involve the students in taking a look at the occupations and functions of community and mental health facilities.

Suggestions for Integration into Health Courses

This unit can be used in the discussion of communicable disease and its control, nutrition, environmental health needs, community life, accident, discussion of vital statistics and mental health.

For example, when teaching nutrition, discuss the occupations in nutrition in the community and their role in preservation of health. Mental health may be approached when studying alcohol, drugs, sex education and personal mental hygiene. Environmental health occupations may be studied during prevention of disease, sanitation (soiled waste disposal), family health and safety, and during the study of community health problems.

As you discuss these areas, point out the interrelationships of the health workers to helping communities meet mental health problems and community problems. Include opportunities for students to become involved with a diversity of health workers utilizing activities suggested in this unit.


ENVIRONMENTAL HEALTH ENGINEER (Sanitary engineer)
ENVIRONMENTALIST (formerly sanitarian)
RADIOLOGICAL HEALTH SPECIALIST
ENVIRONMENTAL HEALTH
ENVIRONMENTAL TECHNICIAN
INDUSTRIAL HYGIENIST

R. GILMORE CURR. DEVE. CNTR. UK. 995-6

Soil Perculation Test

for

Planning Safe Community Water Supplies and Location of Sewage Lines

Equipment:

1. One large vegetable juice tin can with both ends cut out
2. A board 4" x 1" x 6"
3. A hammer
4. A watch with a second hand
5. A quart measure and one quart of water
6. A ruler to measure absorption
7. Pencil and paper

Steps:

1. Find an open place in the school yard. Note the amount of grass, old leaves, and type of soil.
2. Mark the outside of the can two inches from the top end.
3. Place the board over the can and tap with the hammer until the 2-inch mark is level with the ground. (The largest portion of can will be above ground.)
4. Slowly add one quart of water. Note the time the water was added.
5. Measure the amount of water that has moved downward at the end of each minute for the first ten minutes. (Measure from the top of the can to the water level.)
6. Continue to measure the drop in the level of water every ten minutes.
7. Note how long it takes for the soil to absorb all the water in the can.

Interpretation:

The more water that enters the soil the less there is to back up causing sewage problems. This test indicates that if the ground is saturated with moisture it is not a good location for septic tanks and their drainage fields, because the sewage has no place to go but to the surface.

Air Pollution Test

Equipment:

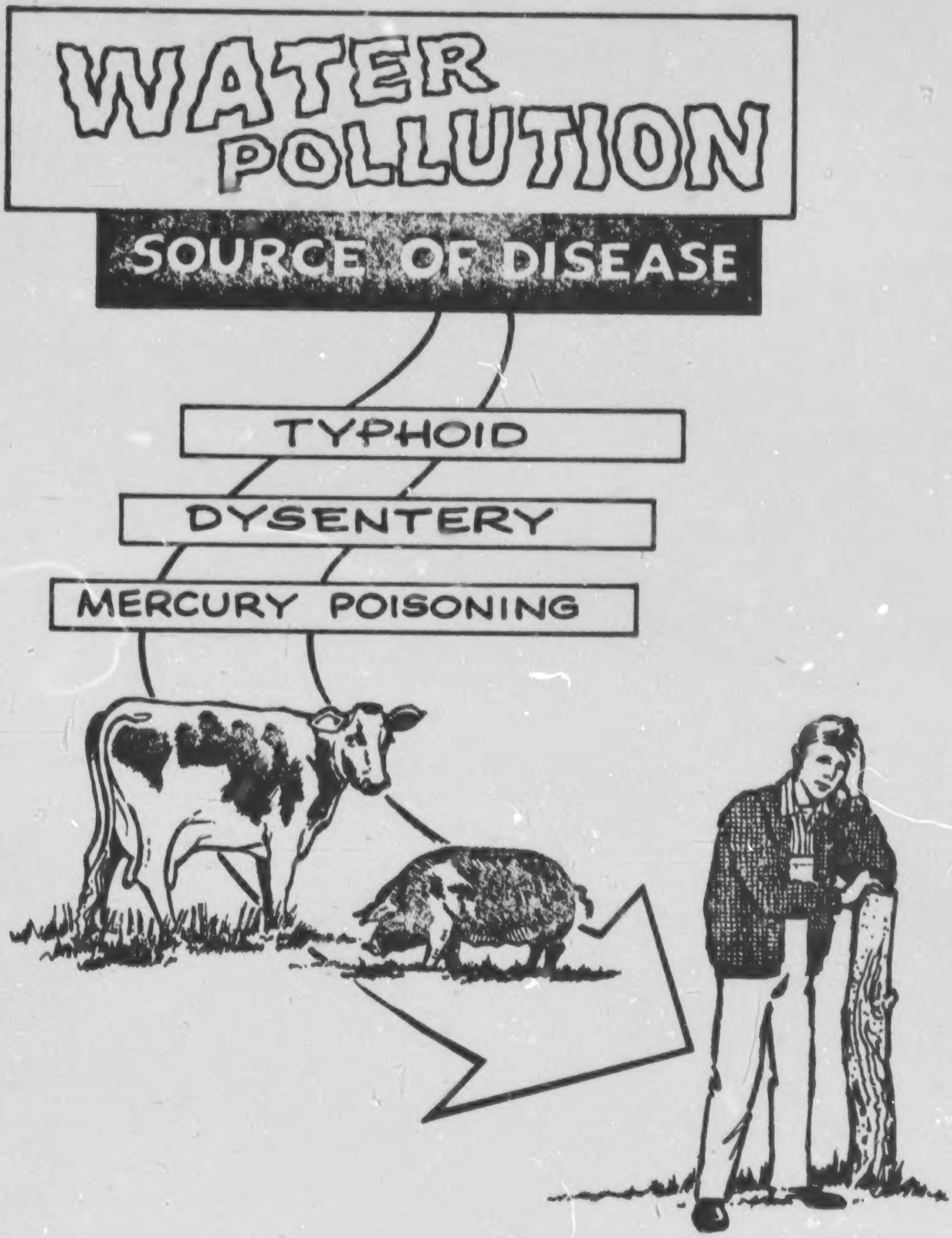
1. Three paper cups or jars
2. A jar of vaseline

Steps:

1. In each cup or jar place an equal amount of vaseline
2. Place one cup or jar outside on the window sill
3. Place one cup or jar inside the classroom
4. Cover the third cup or jar tightly as a control
5. Leave standing overnight or two-three hours

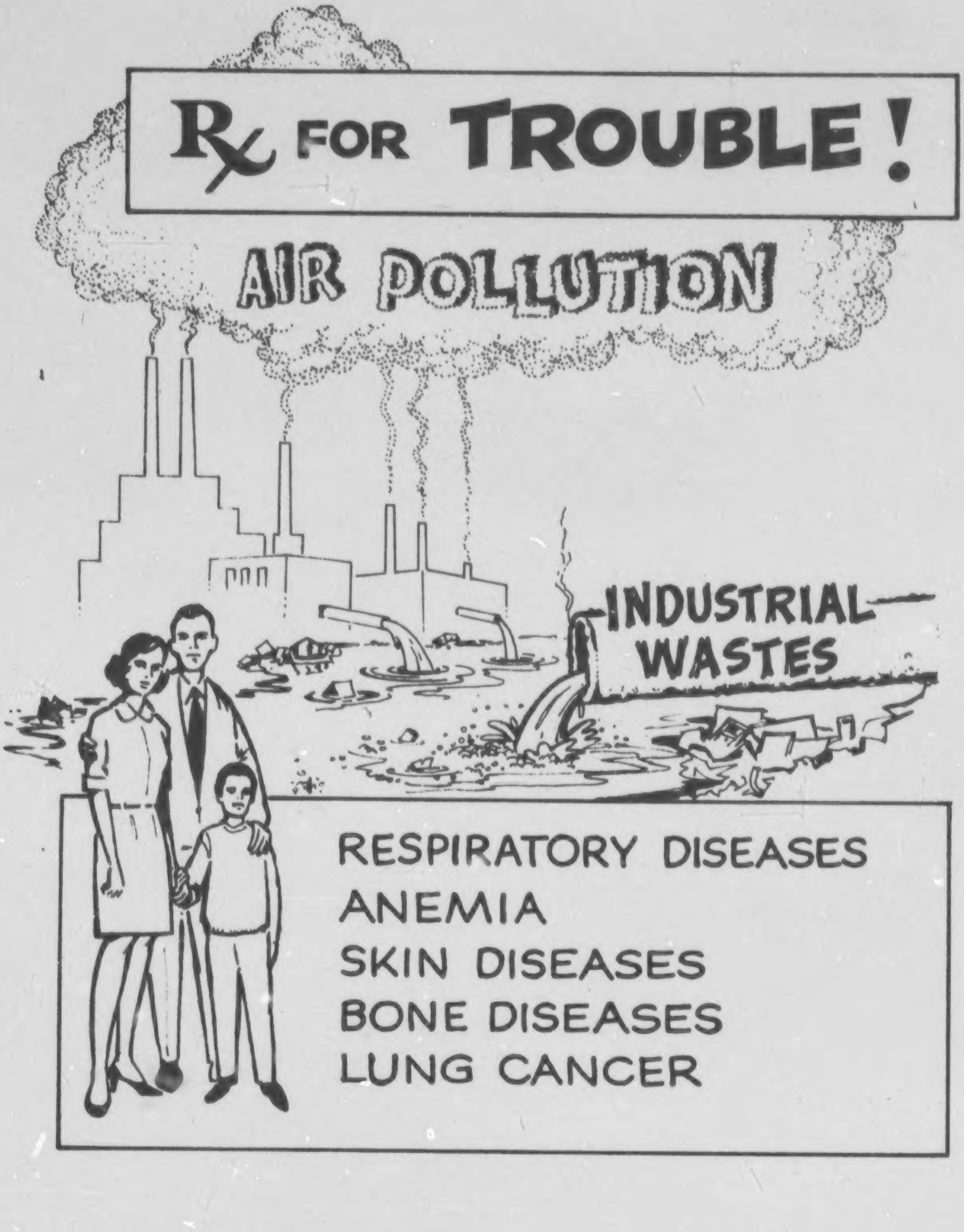
Interpretation:

The amount of accumulated pollutants seen on the vaseline is an indication as to the amount that is in the air compared to the control which was not exposed to the air. Try the experiment before and after a rain noting the difference in pollutants.



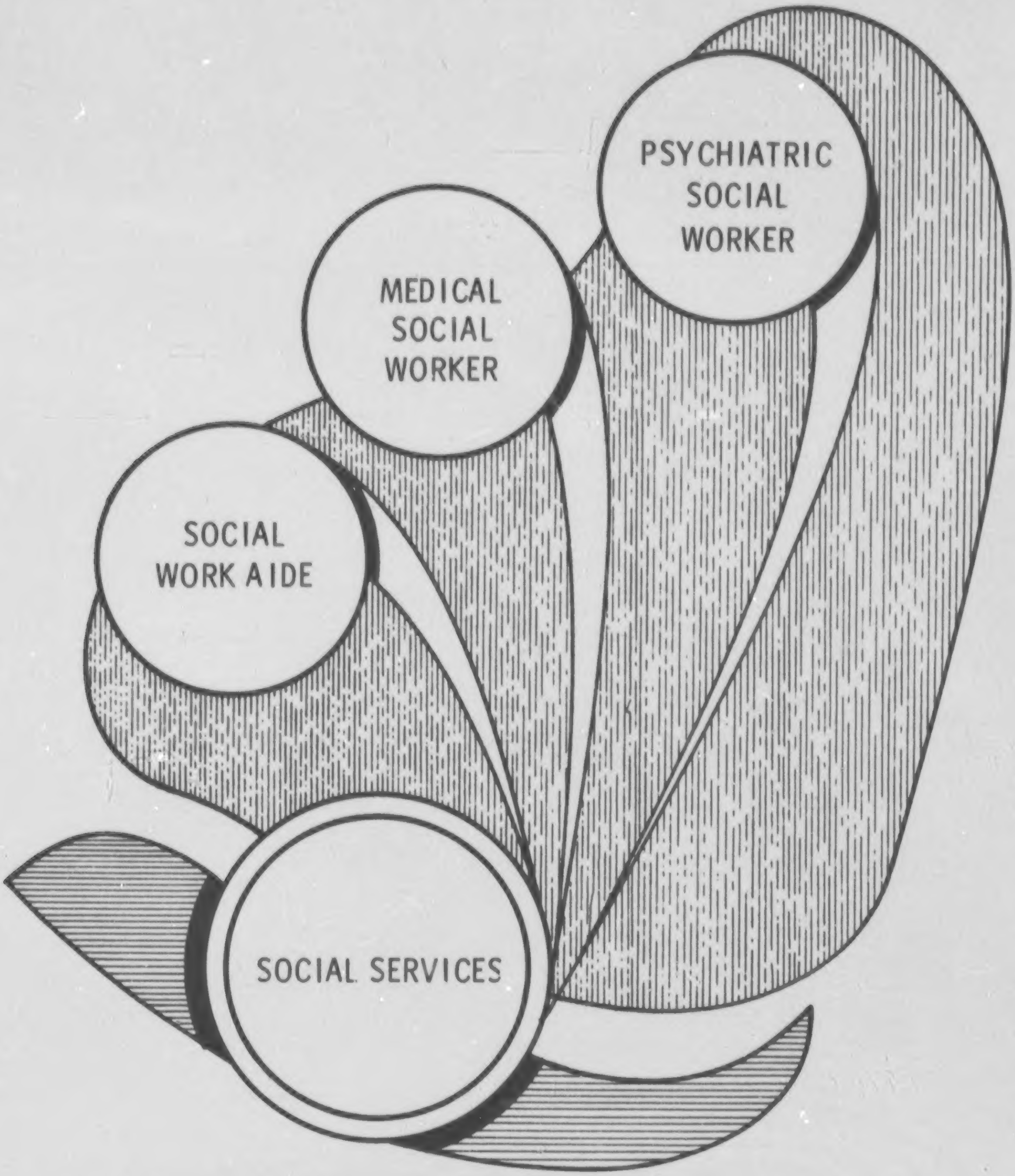
T. VANTREESE, INST. MATL. LAB., U.K. 680-3

Rx FOR TROUBLE!



RESPIRATORY DISEASES
ANEMIA
SKIN DISEASES
BONE DISEASES
LUNG CANCER

T. VANTREESE, INST. MATL. LAB., U.K.



R. GILMORE CURR. DEVE. CNTR. UK. 995-14

PLOTTING OF GROWTH CHARTS

(Using the Metric System)

This experience is to give the student the opportunity to learn about use of growth curves to determine if an infant or toddler is within the normal range of growth for his age. It is utilized in a well baby clinic and is kept in the infant's folder as a continuous record of growth.

The student is given:

Age	Height	Weight
1 month	22 inches	10 lbs.
3 months	26 inches	15 lbs.
6 months	29 inches	18 lbs.
9 months	30 inches	20 lbs.
12 months	31 inches	24 lbs.
18 months	33 inches	28 lbs.
24 months	35 inches	30 lbs.

Before plotting on the graphs, the student must convert inches to centimeters and pounds to kilograms. After conversion, using the metric figures, plot the growth information on the curves to see if the infant is growing within the accepted range (the shaded area on graphs). Round figures to the nearest tenth.

1 kilogram = 2.2 lbs

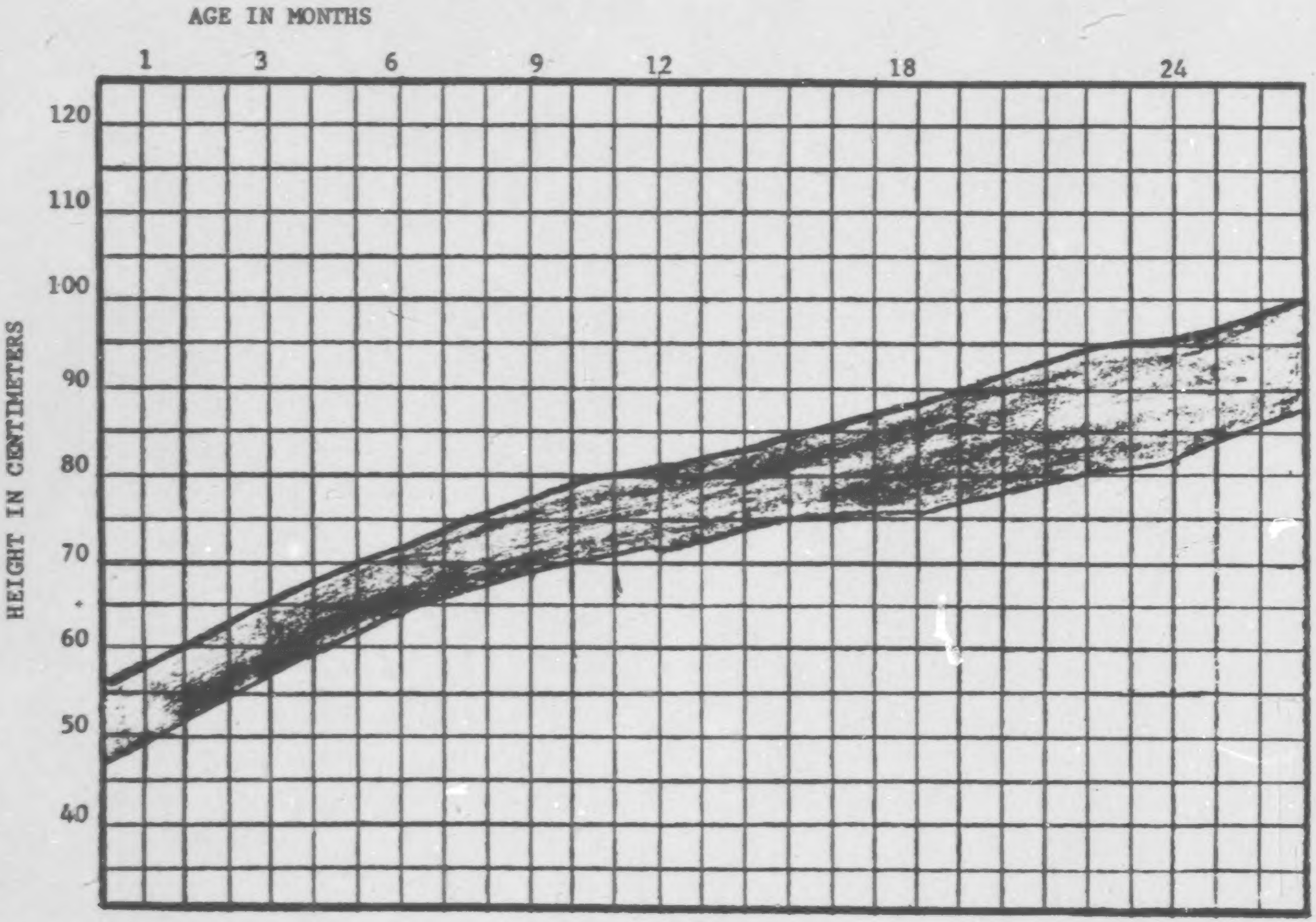
1 centimeter = 39 inches

PLOTTING OF GROWTH CHARTS

Answers for Plotting:

	Centimeters	Kilograms
1 month	57.1	4.5
3 months	67.5	6.7
6 months	74.6	8.2
9 months	76.9	9.1
12 months	79.5	10.9
18 months	82.1	12.7
24 months	89.7	13.6

MALE: 0 - 24 MONTHS



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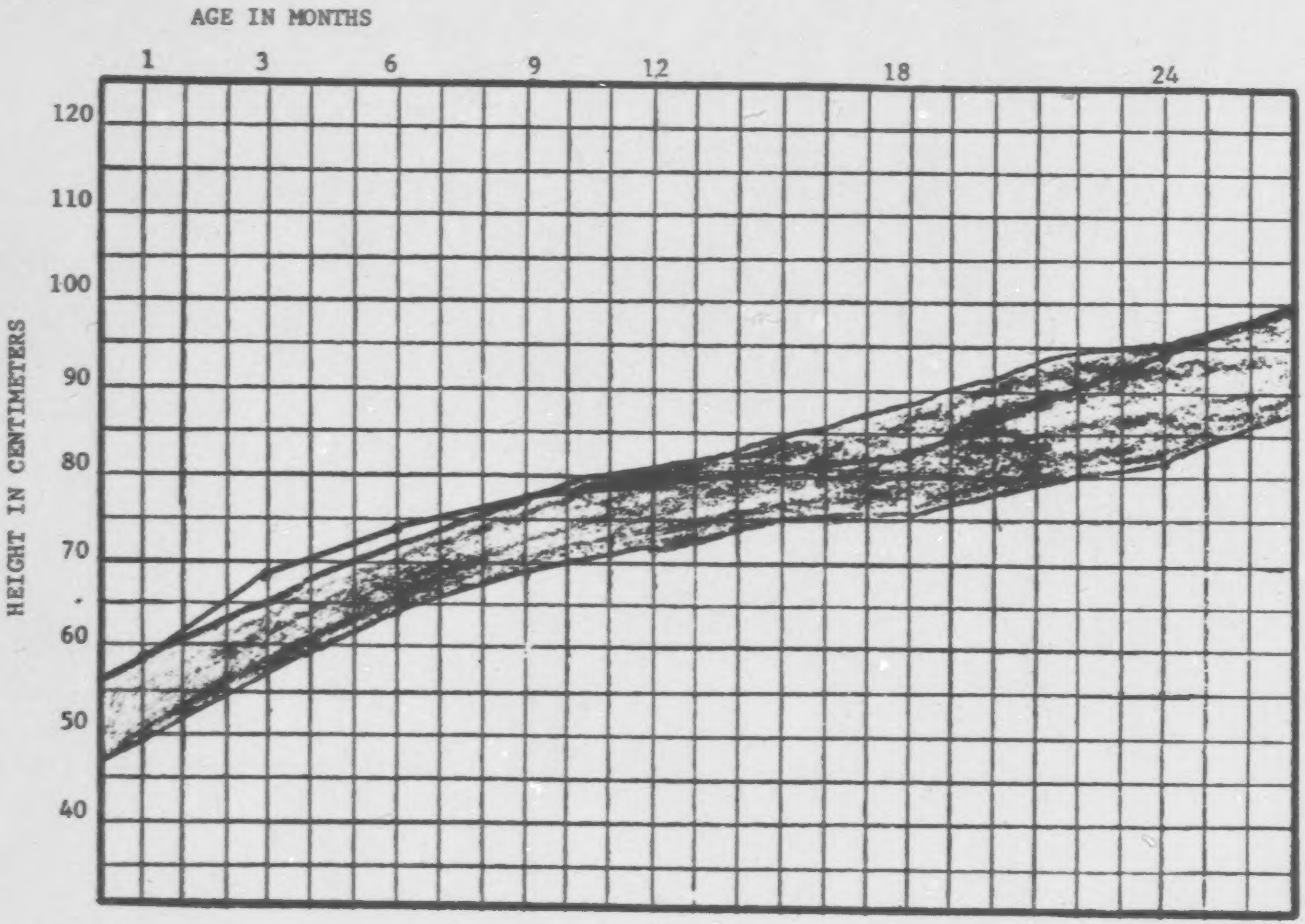
ANSWER SHEET

MALE: 0 - 24 MONTHS



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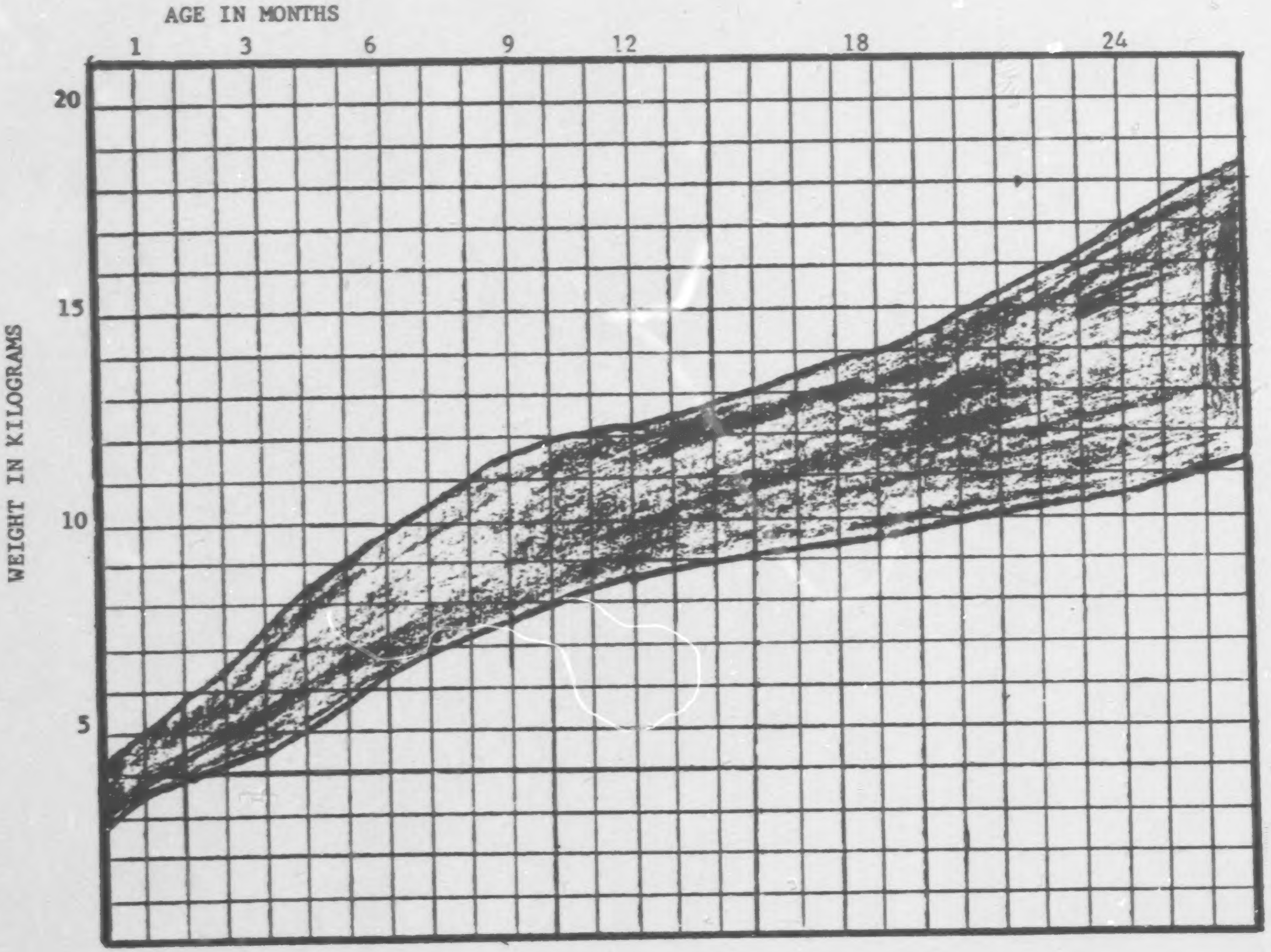

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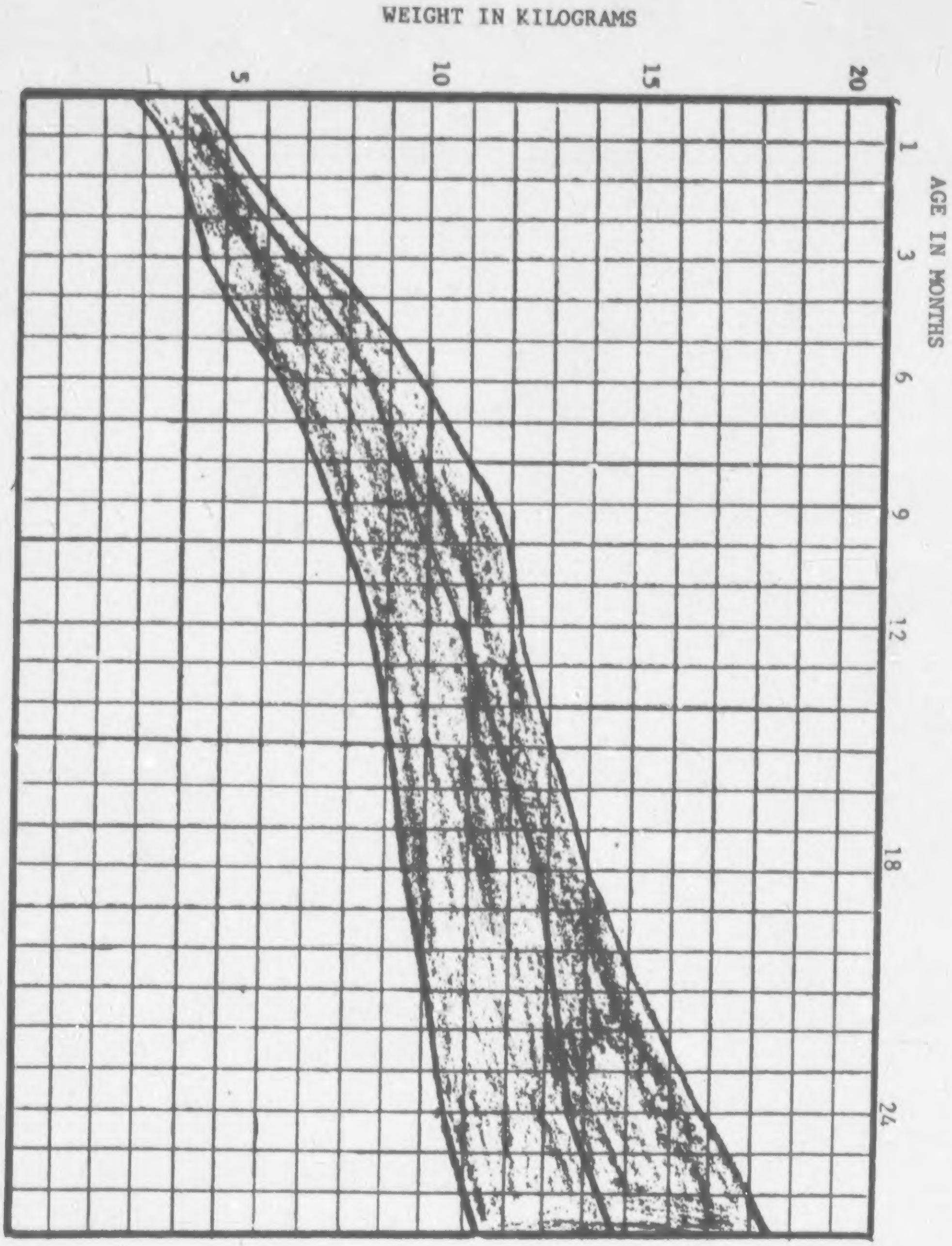
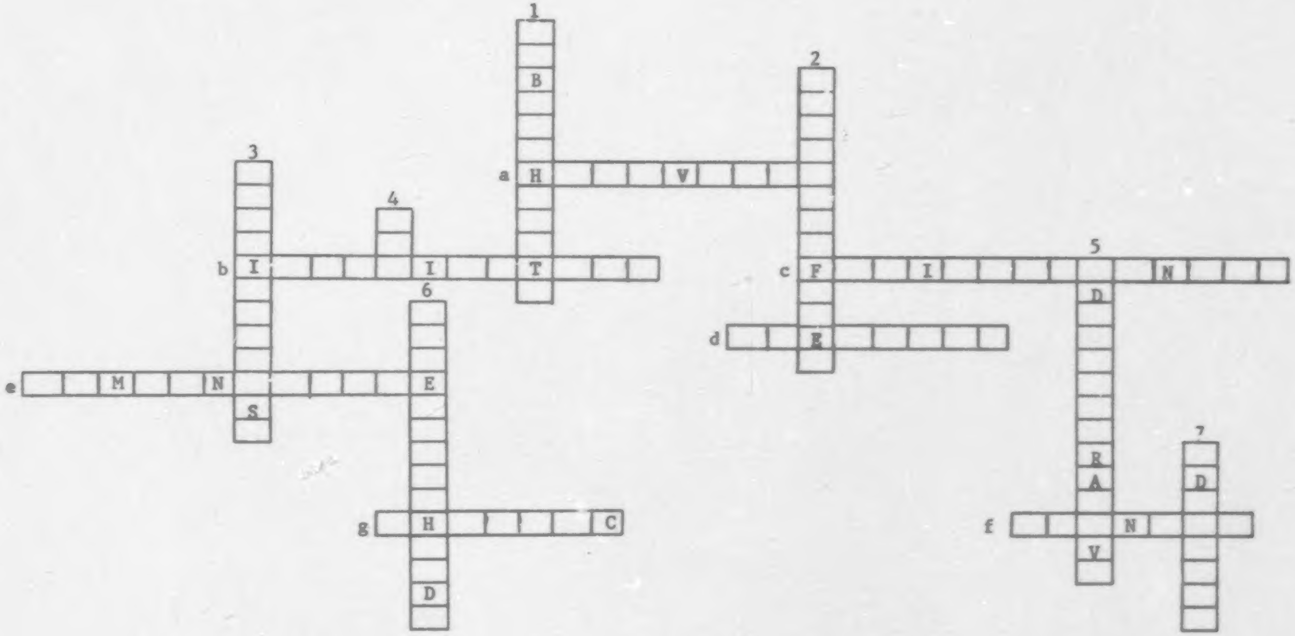
ANSWER SHEET

MALE: 0 - 24 MONTHS





"COMMUNITY HEALTH CROSSWORD PUZZLE"

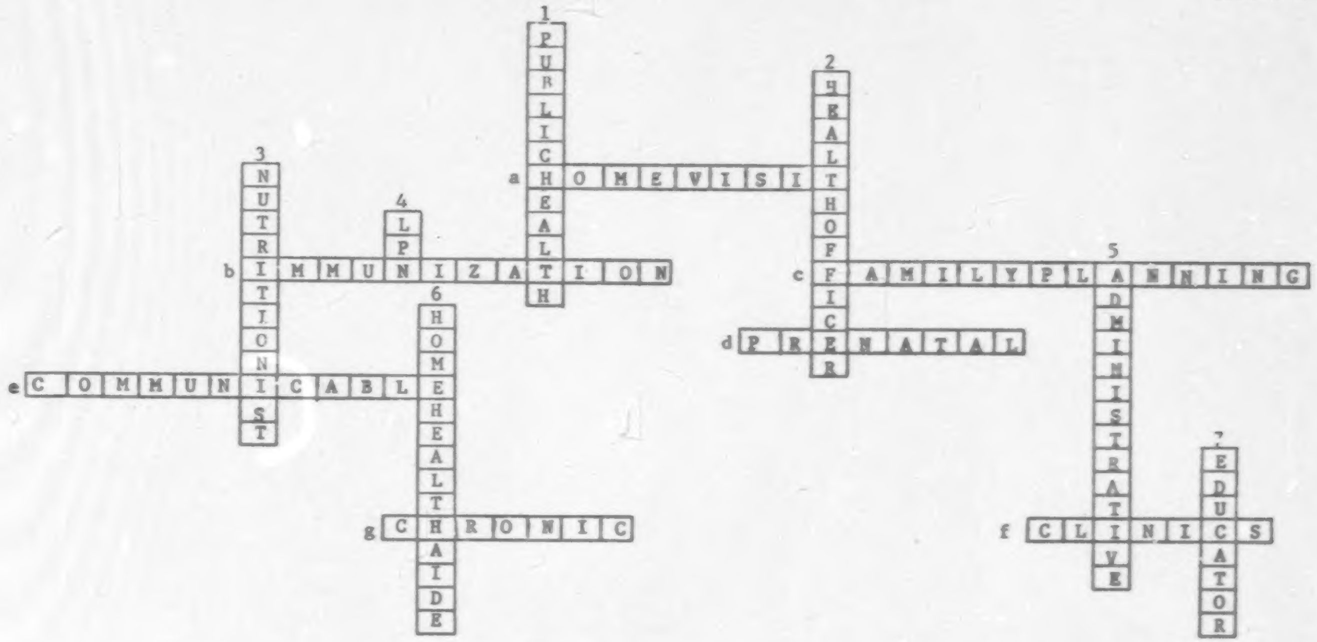
Complete the puzzle below by filling in the definitions to ACROSS and DOWN to evaluate your knowledge of community health.

DOWN

1. title of nurse speciality in community health
2. physicians title in local health department
3. person responsible for normal and modified diets
4. Licensed Practical Nurse (abreviation)
5. individual responsible for fiscial control in local health department (____ Assistant).
6. individual who makes home visits under supervision of nurses
7. individual responsible for keeping the public informed on health problems (health ____)

ACROSS

a. type of calls made to individual people
b. given to children to prevent spread of disease
c. clinic held to assist in population control (2 words)
d. clinic held for expectant mothers (1 word)
e. broad title for disease which spreads through a community
f. orgainzed programs scheduled to serve specific problems, usually held in health department
g. disease that is always present, but can be kept under control



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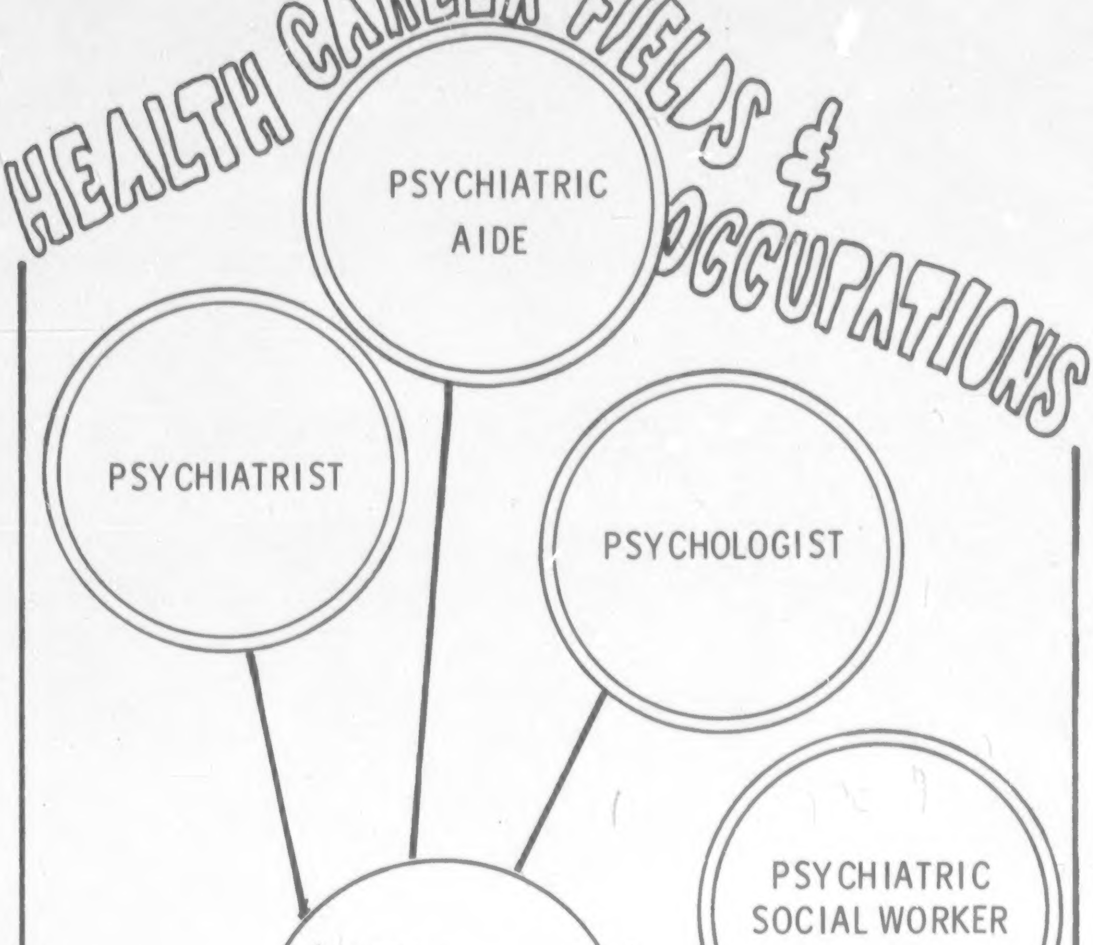


D. PHIPPS. CURR. DEVE. CNTR. UK. 995-3

Kentucky
Comprehensive Mental Health Care Centers

Western Ky. Comprehensive
Care Center
1530 Lone Oak Road
Paducah, Kentucky 42001

Pennyroyal Comprehensive
Care Center
735 North Drive
Hopkinsville, Kentucky 42240

Green River Comprehensive
Care Center
403 W. 3rd Street
Owensboro, Kentucky 42301

Barren River Comprehensive
Care Center
1006 Glenview
P.O. Box 175
Glasgow, Kentucky 42141

North Central Comprehensive
Care Center
P.O. Box 219
Elizabethtown, Kentucky 42701

River Region MH-MR Board, Inc.
Administrative Offices
60 S. 4th Street
Louisville, Kentucky 40202

West Central Center
730 West Market
Louisville, Kentucky 40202

Shawnee Center
300 North 42nd Street
Louisville, Kentucky 40212

Dumesnil Center
2813 Dumesnil
Louisville, Kentucky 40211

Eastern Parkway Center
1359 South Third Street
Louisville, Kentucky 40203

Louisville Child Guidance
601 South Floyd
Louisville, Kentucky 40202

Bridgehaven
1423 South 4th Street
Louisville, Kentucky 40208

Crisis Center
522 E. Gray Street
Louisville, Kentucky 40203

Bingham Center
Central State Hospital
LaGrange Road
Louisville, Kentucky 40223

Oldham County Center
LaGrange, Kentucky

Tri-County Center
305 Main Street
New Castle, Kentucky 40050

Shelby County Center
403 1/2 6th Street
Shelbyville, Kentucky

Trimble County Center
Highway 42
Bedford, Kentucky

Crescent Hill Center
3418 Frankfort Avenue
Louisville, Kentucky 40207

Jeffersontown Center
10516 Watterson Trail
Jeffersontown, Kentucky 40299

Hikes Point Center
3717 Taylorsville Road
Louisville, Kentucky 40220

Bishop Lane Center
4400 Bishop Lane
Louisville, Kentucky 40220

Okolona Center
7919 South Preston Street
Louisville, Kentucky 40219

Bullitt County Center
204 Walnut Street
Shepherdsville, Kentucky

Buechel-Fern Creek Center
197 Carey Avenue
Louisville, Kentucky 40218

Spencer County Center
Main Street
Taylorsville, Kentucky

South Jefferson Center
1901 Outer Loop
Louisville, Kentucky 40219

South Louisville Center
3548 Taylor Boulevard
Louisville, Kentucky 40215

Mill Creek Center
1512 Crums Lane
Louisville, Kentucky 40216

South Dixie Center
1801 Dixie Highway
Louisville, Kentucky 40258

Elk's Building Center
1800 Bluegrass Avenue
Louisville, Kentucky

Drug Treatment Project
818 South 6th Street
Louisville, Kentucky 40202

Northern Ky. MH-MR Board, Inc.
Administrative Offices
430 Garrard Street
Covington, Kentucky 41011

Northern Ky. Comprehensive Care
Center
Second and Greenup
Covington, Kentucky 41011

Northern Ky. Comprehensive
Care Center
718 Columbia Street
Newport, Kentucky 41071

Comprehend, Inc.
Box 630, Hord Bldg.
Maysville, Kentucky 41056

Cave Run MH-MR Board, Inc.
825 E. Main Street
Morehead, Kentucky 40351

Appalachian Comprehensive
Care Center
539 Central Avenue
Ashland, Kentucky 41101

Mountain MH-MR Board, Inc.
Administrative Offices
P.O. Box 384
N. Arnold Avenue
Prestonsburg, Kentucky 41653

Mountain Comprehensive Care Center
P.O. Box 384
Prestonsburg, Kentucky 41653

Upper Ky. River Comprehensive
Care Center
P.O. Box 800
Hazard, Kentucky 41701

Cumberland River MH-MR Board, Inc.
Administrative Offices
Doctor's Park Bldg.
P.O. Box 568
Corbin, Kentucky 40701

Cumberland River Comprehensive
Care Center
Doctor's Park Building
Mitchell Street
P.O. Box 568
Corbin, Kentucky 40701

Cumberland River Comprehensive
Care Center
Route #1, Mounted
Harlan, Kentucky 40381

Lake Cumberland Comprehensive
Care Center
219 S. Main Street
Somerset, Kentucky 42501

Central Kentucky MH-MR Board, Inc.
Administrative Offices
690 Newtown Pike
P.O. Box 1969
Lexington, Kentucky 40508

Bluegrass West Comprehensive
Care Center
404 Ann Street
Frankfort, Kentucky 40601

Bluegrass East Comprehensive
Care Center
201 Mechanic Street
Lexington, Kentucky 40507

Dale H. Barabee School
690 Newtown Pike
P.O. Box 1969
Lexington, Kentucky 40508

Southern Bluegrass Comprehensive
Care Center
P.O. Box 112
Danville, Kentucky 40422

Central State Hospital
Louisville, Kentucky 40223

Eastern State Hospital
Lexington, Kentucky 40508

Kentucky State Hospital
Danville, Kentucky 40422

Western State Hospital
Hopkinsville, Kentucky

Hazelwood
Louisville, Kentucky 40215

Oakwood
Somerset, Kentucky 42501

Outwood
Dawson Springs, Kentucky 42408

Children's Treatment Service
Central State Hospital
Louisville, Kentucky 40223

Diagnostic & Evaluation Center
Frankfort, Kentucky 40601

Forensic Psychiatry, Grauman
Central State Hospital
Louisville, Kentucky 40223

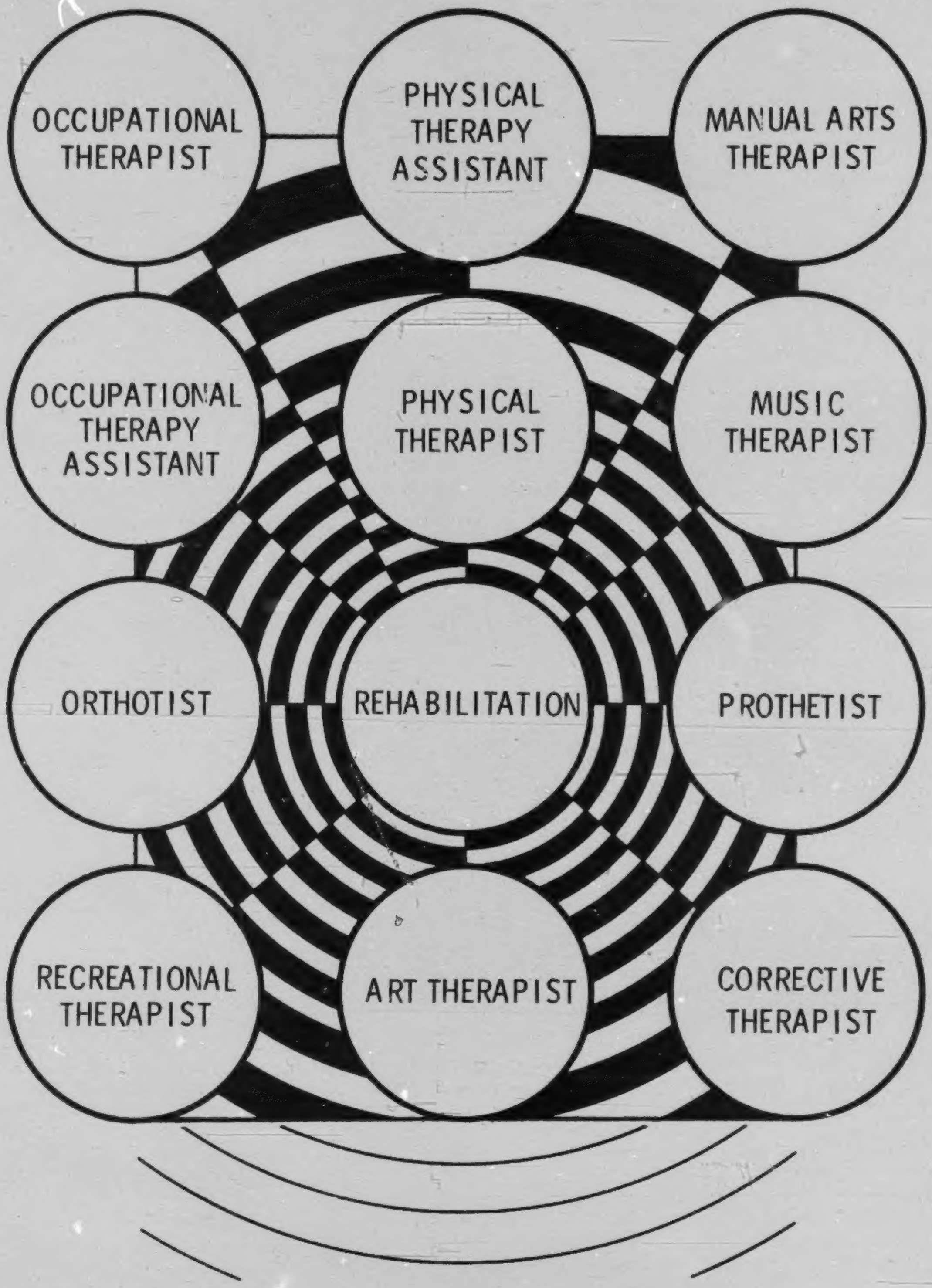
Forensic Psychiatry, Correctional
Kentucky State Reformatory
LaGrange, Kentucky 40031

Alcoholism Demonstration Project
District II
Breckinridge Building
Central State Hospital
Louisville, Kentucky 40223

Alcoholism Demonstration Project
District IV
690 Newtown Pike
Lexington, Kentucky 40508

Out-Patient Forensic
1032 College Street
Bowling Green, Kentucky 42101

Out-Patient Forensic
207 Garrard Street
Covington, Kentucky 41011



R. GILMORE CURR. DEV. CNTR. UK. 995-12

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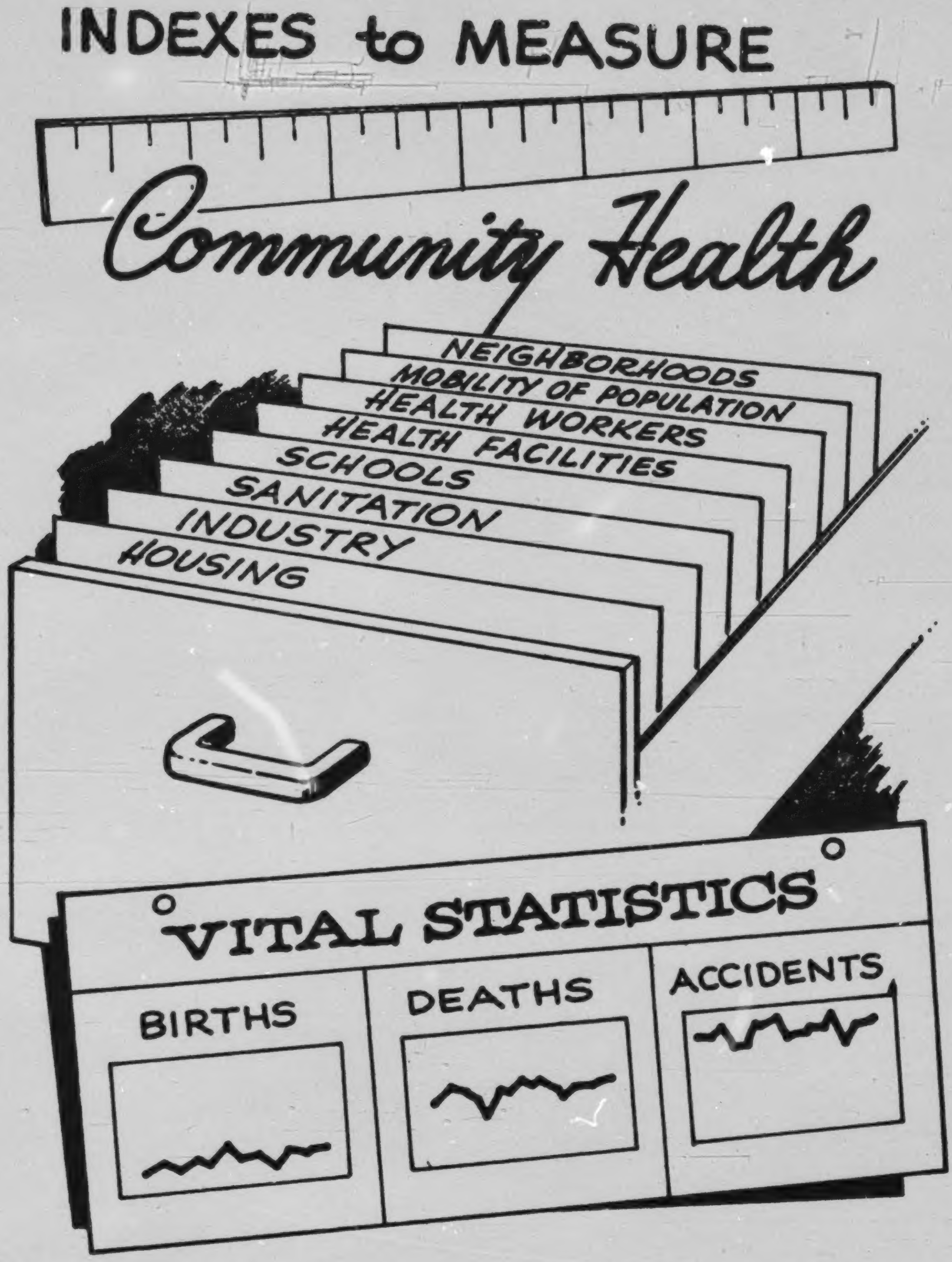


T.VANTREESE, INST. MATL. LAB., U.K. 680-4

93/94

UNIT THREE

INTRODUCTION TO EXPLORATION

OF

CAREERS IN SUPPORT, MAINTENANCE AND RESTORATION OF HEALTH

UNIT PURPOSE: To provide students with activities to help them explore what health workers do to treat, care, rehabilitate, and restore the ill person to purposeful living

PERFORMANCE OBJECTIVES: The student will be able to

I. Correctly identify five types of jobs essential to the operation of health facilities and explain the need for them.

II. List requirements for a career in medicine and pharmacy, including occupations such as medical assistant, physician's assistant, medical rescue technician, and pharmacist's aide.

III. Analyze the roles, type of work and requirements for entry into each type of job in dentistry.

IV. Make a diagram of the nursing team and describe the functions of the professional and supportive nursing personnel.

V. Explain types of occupations found in the medical laboratory and radiology with a description of functions related to four occupations in these two areas.

VI. Make an analysis of three or more jobs in dietary services.

VII. Identify three jobs in rehabilitation and explain how this work restores people to a useful life.

VIII. Name and describe at least three emerging health occupations.

NOTE TO THE TEACHER:

Suggestions for the integration of content into science and health classes can be found on p. 140 of Supportive Materials for Unit Three.

I. The student will be able to correctly identify five types of jobs essential to the operation of health facilities and explain the need for them.

  A. Suggested Content

    1. Types of administrative services

      a. Management

        (1) Administrative
        (2) Business
        (3) Personnel
        (4) Maintenance
        (5) Housekeeping
        (6) Office personnel

      b. Admissions and discharge

      c. Medical records

      d. Volunteer services

    2. Types of jobs (examples)

      a. Hospital administrator

      b. Nursing home administrator

      c. Business manager

      d. Personnel director

      e. Purchasing agent

      f. Hospital engineer

      g. Hospital housekeeper

      h. Admission clerk

      i. Medical records administrator

      j. Medical records technician

      k. Medical secretary

      l. Director of voluntary services

    3. Employment opportunities

      a. Hospitals (private & governmental)

      b. Nursing homes

c. Clinics

d. Armed forces

4. Requirements for entry

a. Education

b. Interest in business and office work

c. Personal qualifications

5. Self-assessment

a. Attitudes

b. Aptitudes and abilities

c. Personality

B. Suggested Teaching-Learning Activities

1. Previous to introducing this objective, make arrangements with your local hospital administrator for permission to have students "shadow" employees working in the administrative division of his organization.

2. Show transparency "Administration, Business and Clerical," p. 141 to illustrate occupations in the area of health careers.

3. Have students make a list of some of the business activities that go on in health facilities and agencies.

a. Classfy these activities according to the operation and management of health facilities and agencies.

b. Name the kinds of information health workers and patients must exchange in order to provide effective services.

c. Name the kinds of information employees and business management must exchange in order to work together.

4. Select several students to role play admitting a patient to the hospital. See pp. 142-145 for "The Hospital Admissions Clerk." Following this activity, discuss all of the health personnel involved in the admission procedure and what each one did for the patient.

5. Show transparency "Medical Records," p. 146 and discuss these occupations.

6. Invite a medical records administrator to explain the purpose for these records, how they are maintained, and the kind of work he or she does in a medical records department.

7. Suggestions for integrating management and office health careers into other junior high courses:

a. Ask the language arts teacher to have one or two sessions on medical terms to illustrate how all people in health must have some knowledge of medical language. See "Medical Terminology," p. 147.

b. Ask the business and office teacher to have students post 24-hour charges on a patient's account. An example list of charges is as follows:

--Room rate includes nursing care and diet	$45.00
--Medicine	10.00
--Dressings	2.00
--X-ray of chest (2 views)	30.00
--Laboratory test	5.00

c. Ask the math teacher to have students figure conversion from apothecary to metric dosages. See "Conversion Information," p. 148 for examples of conversion figures.

d. Ask the industrial arts teacher to invite the hospital maintenance engineer to demonstrate the use of a fire extinguisher and talk with the students about his responsibilities for the maintenance and upkeep of a hospital.

e. Ask the home economics teacher to help students plan an attractive room for a patient. Other activities may include:

(1) Determining the daily supply of linens for a nursing unit. See "Distribution of Linens," pp. 149-151.
(2) Demonstration on how to empty waste containers and discussion of safety factors in housekeeping procedures.

C. Suggested Evaluation

1. Have students prepare an organizational plan showing the relationship of building and maintenance, and business department and housekeeping. Evaluate student's concept of how nonclinical personnel relate to the total health team.

2. Have students prepare a bulletin board illustrating how people in business management, maintenance, and housekeeping serve the patient. Evaluate according to the student's knowledge of the roles of the different types of personnel.

D. Suggested Resources

1. Books

a. Careers in Hospital Maintenance, Administration and Business Practices

   b. Health Careers Guidebook
   c. Job Descriptions and Organizational Analysis in Hospitals and Related Health Services
   d. You and Your Health

2. Pamphlets - Obtain pamphlets from the following sources.
   a. American College of Hospital Administrators
   b. American College of Nursing Home Administrators
   c. American Public Health Association
   d. American Society of Hospital Engineers
   e. Health Careers Association in Kentucky
   f. Hospital Management Systems Society
   g. National Executive Housekeepers Association
3. Films and Filmstrips
   a. "Middle Management in Health Care Institutions"
   b. "The Fixing Business"
4. Resource Persons
   a. Medical records librarian
   b. Hospital admitting clerk
   c. Hospital maintenance engineer
5. Student Materials
   a. "The Hospital Admissions Clerk," pp. 142-145
   b. "Medical Terminology," p. 147
   c. "Conversion Information," p. 148
   d. "Distribution of Linens," pp. 149-151
6. Transparency Masters
   a. "Administrative, Business and Clerical," p. 141
   b. "Medical Records," p. 146

II. The student will be able to list requirements for a career in medicine, including occupations such as a medical assistant and physician's assistant, medical rescue technician, and pharmacist's aides.

A. Suggested Content

1. Types of medical services (examples)
    a. General medicine
    b. Internal medicine
    c. Surgery
    d. Eye, ear, nose and throat
    e. Preventative medicine
    f. Pediatrics
    g. Physical medicine and rehabilitation
    h. Radiology
    i. Emergency medical and rescue services
    j. Provide health products
2. Types of medical professions (examples)
    a. Family physician
    b. Internist
    c. Surgeon
    d. Neurologist
    e. Obstetrician
    f. Pediatrician
    g. Radiologist
    h. Pathologist
    i. Anesthesiologist
    j. Other
        (1) Physician's assistant

    - (2) Medical office assistant
    - (3) Emergency rescue technician

- k. Pharmacist

    - (1) Hospital pharmacist
    - (2) Radio pharmacist
    - (3) Emergency rescue technician

3. Places of employment

    - a. Private offices
    - b. Government agencies and hospitals
    - c. University medical centers
    - d. Armed forces
    - e. Mission fields
    - f. Industrial plants
    - g. Private hospitals
    - h. Voluntary health agencies

4. Requirements for entry

    - a. Education
    - b. Interest in science
    - c. Desire to help people
    - d. Good physical and mental health
    - e. Above average grades in school

5. Self-assessment

    - a. Attitudes
    - b. Aptitudes and abilities
    - c. Personality

B. Suggested Teaching-Learning Activities

1. Use transparency "Medicine," p. 152 to show medical specialties and occupations requiring a doctorate degree.

2. Make arrangements with a local doctor for students to shadow his activities and report back to class on his or her observations.

3. Show films; for example, "Someone You Can Trust," "Someone You Can Be," or "First a Physician," "Making of a Doctor," and "American Doctors." Following the showing of a film, discuss:

   a. What kind of a medical specialty was illustrated in this film?

   b. Why has the need for this type of specialty developed?

   c. How does this specialty contribute to people's welfare?

   Note to the teacher: You might want to show these films illustrating opportunities for minority students.

   (1) "Hands We Trust"
   (2) "Code Blue" and "A Matter of Opportunity"

4. Invite a local physician to talk to the class about the realities of preparing for and practicing medicine.

5. Compare opportunities for women in medicine. Ask the girls in your class to write the American Medical Women's Association, Inc., 1740 Broadway, New York, N.Y. 10019, for information regarding women in medicine.

6. The physician's assistant is a new and emerging occupation. Ask students to write the Dean of Allied Health, School of Medicine, University of Kentucky, for information about the occupation, including length of training, requirements for entry, and future opportunities. Use transparency "Physician's Assistant or Associate," p. 153 to illustrate these occupations.

7. Have a rap session on what the medical rescue technician does based on students' viewing of the T.V. show "Emergency."

   Note to the teacher: If your local fire or police department has a medical rescue unit, make arrangements for the workers in this unit to demonstrate equipment and tell about their work.

8. Have students role play a medical assistant making an appointment for a patient. See "Scheduling a Doctor's Appointment," pp. 154-155 for suggested role-playing activity.

9. Invite a local pharmacist to talk with the students about becoming a pharmacist and the nature of work in a pharmacy.

10. Show films related to work in a pharmacy and research in pharmaceutical products. Suggested films include: "Bartlett and Son," "Mr. Galen Comes to Town," "This is Pharmacy," and "Time for Tomorrow."

11. Have students interview a pharmacist regarding the legal aspects of this occupation. Following this, have them role play a person trying to (1) have the pharmacist prescribe a medication, or (2) talk the pharmacist into refilling a prescription that is outdated. Follow with a discussion on the pharmacist's role in protecting people's health. Show transparency "Pharmacy," p. 156.

12. Have students make posters showing new drugs that have been introduced using ads in newspapers and magazines.

13. Explain the differences between a pharmacist in the local drug store, the hospital, and the radiopharmacist.

14. Suggestions for integration of these occupations in other junior high courses:

    a. Ask the social studies teacher to have students study needs for physicians in rural areas and inner-city areas compared to the abundance in middle and upper class neighborhoods.

    b. Ask the language arts teacher to have students study the generic and trade names of drugs and relate this to the study of synonyms.

    c. Ask the math teacher to have students figure how much aspirin to give a two-year-old child. See "Arithmetic Activities for Students," p. 157.

C. Suggested Evaluation

1. Have students tell what kind of information they would need to know in order to practice as a physician or a pharmacist. Evaluate student's understanding of preparation and practice for each type of profession.

D. Suggested Resources

1. Books

    a. Careers in Medical Sciences

    b. Health Careers Guidebook

    c. Health Careers in Kentucky

    d. Horizons Unlimited

e. Job Descriptions and Organizational Analysis in Hospitals and Related Health Services

2. Pamphlets - Contact the following associations for information in these careers.

    a. American Association of Family Practice

    b. American Association of Medical Assistants

    c. American Medical Association

    d. American Pharmaceutical Association

    e. American Society of Anesthesiology

3. Films and Filmstrips

    a. "A Matter of Opportunity"

    b. "American Doctor"

    c. "Bartlett and Son"

    d. "Code Blue"

    e. "First a Physician"

    f. "Hands We Trust"

    g. "Making of a Doctor"

    h. "Mr. Galen Comes to Town"

    i. "Someone You Can Trust"

    j. "This is Pharmacy"

    k. "Time for Tomorrow"

4. Resource Persons

    a. Local physician

    b. Local pharmacist

    c. Medican rescue technician

5. Student Materials

    a. "Scheduling a Doctor's Appointment," pp. 154-155

    b. "Arithmetic Activities for Students," p. 157

6. Transparency Masters

   a. "Medicine," p. 152

   b. "Physician's Assistant or Associate," p. 153

   c. "Pharmacy," p. 156

III. The student will be able to analyze the roles, type of work and requirements for entry with each type of job in dentistry.

A. Suggested Content

1. Types of dental services
    - a. General dental services
    - b. Special treatments and care
    - c. School and public
2. Types of occupations in dentistry
    - a. Dentist
    - b. Specialist (examples)
        - (1) Oral surgeon
        - (2) Orthodontist
        - (3) Endodontist
        - (4) Pedodontics
    - c. Dental assistant
    - d. Dental hygienist
    - e. Dental technician
3. Places of employment
    - a. Private offices
    - b. Schools
    - c. Governmental agencies (city, county, state & federal)
    - d. Clinics private and public
    - e. Mission fields
    - f. Peace corps
    - g. Armed forces
4. Requirements for entry
    - a. Education
    - b. Interest in science

        - c. Licensure and certification
        - d. Mechanical skills
        - e. Good health
    - 5. Self-assessment
        - a. Attitudes
        - b. Aptitudes and abilities
        - c. Personality

B. Suggested Teaching-Learning Activities

1. Use transparency "Dental Services," p. 158 to introduce topic.

2. Make arrangements for a dentist, dental hygienist, dental assistant, and dental technician to present a panel discussion on the dental team.

3. View films about jobs in dentistry, and write a review of the film. Examples of films include: "Bright Future," "Dental Assistant," "Pattern of a Profession," "Set the State for Dental Health," and "What About Tomorrow?" Students' reviews should include:
    - a. What the dental worker was doing in each film
    - b. Relationships of the dental worker to other members of the dental team
    - c. Type of equipment the student sees being used
    - d. Relationship of each person in film to the patient
    - e. What and how much preparation was necessary to perform dental skills

4. Make a survey of the different types of specialties in dentistry, and report on how jobs in these specialties differ.

5. Invite a dental assistant to demonstrate a dental record and tell how she helps the dentist keep the record.

6. Assign two or three students to interview a dental hygienist to learn the proper way to brush teeth and test if the teeth have been properly cleaned. From this interview ask students to develop a demonstration on good tooth brushing techniques utilizing test to check results.

7. Use transparency "A Balanced Health Career," p. 159 to discuss selecting a career in dental hygiene based on knowledge of abilities and limitations. Emphasize application to other health careers.

8. Visit a dental laboratory to observe the construction of dental prothesis, and write a news release about this type of work.

   Note to the teacher: Contact your local dentist for the name of a dental laboratory technician in your community.

9. Appoint two students to give a presentation on the value of dental hygiene to personal appearnaces, general health, and kinds of corrective measures to improve your looks and smile.

10. Have students role play one of the following:

    a. Seating a patient in a dental chair

    b. Instructing a patient on a proper diet (dental hygienist)

    c. Four-handed dentistry (the dentist and dental assistant working together)

    d. Answering the telephone in a dental office and scheduling an appointment

    e. Making financial arrangements for patient to pay for services

11. Suggestions for integrating dental careers in other junior high courses:

    a. Ask the language arts teacher to teach the proper procedures for answering a business telephone.

    b. Ask the social studies teacher to have students debate on fluoridation of water to protect teeth and discuss the socio-economic implications.

    c. Ask the art teacher to have the students draw a tooth and label all of its parts. Ask students to use their illustration and explain how a tooth decays.

C. Suggested Evaluation

1. Complete "Dental Science Crossword Puzzle," pp. 160-61 with less than two errors in identifying the occupations and related terms.

D. Suggested Resources

1. Books

   a. Careers in Medical Science

   b. Health Careers Guidebook

   c. Kentucky Health Careers Curriculum Guide

2. Pamphlets - Write the following associations.

   a. American Dental Association

   b. American Dental Assistants Association

   c. American Dental Hygienist Association

   d. National Association of Dental Laboratories, Inc.

3. Films and Filmstrips

   a. "Bright Future"

   b. "Dental Assistant"

   c. "Pattern of a Profession"

   d. "Set the Stage for Dental Health"

   e. What About Tomorrow?"

4. Resource Persons

   a. Dentist

   b. Dental assistant

   c. Dental hygienist

   d. Dental technician

5. Student Materials

   a. "Dental Science Crossword Puzzle," pp. 160-161

6. Transparencies

   a. "Dental Services," p. 158

   b. "A Balanced Health Career," p. 159

IV. The student will be able to make a diagram of the nursing team and describe the functions of the professional and supportive nursing personnel.

A. Suggested Content

1. Types of nursing services
    a. General bedside nursing
    b. Specialized nursing services (examples: obstetrics, surgical, pediatrics, etc.)
    c. Consultant nursing services
    d. Education and teaching
    e. Administrative services
2. Places of employment
    a. Hospitals and nursing homes
    b. Private doctor's offices
    c. Government agencies
    d. Clinics
    e. Voluntary agencies
    f. Mission fields
    g. Armed forces
    h. Educational facilities
    i. Entertainment & recreational facilities (Disneyland) state and national parks, camps, race tracks
3. Types of occupations in nursing
    a. Professional nurse
        (1) Associate degree
        (2) Diploma
        (3) Bachelor of science degree
    b. Licensed practical nurse
    c. Surgical technician
    d. Ward clerk

    e. Nurse's aide and orderly (clinical assistants, psychiatric aides)

4. Requirements for entry
    a. Education
    b. Interest in social services and science
    c. Manual and physical dexterity
    d. Good health
    e. Licensure and certification
5. Self-assessment
    a. Attitudes
    b. Aptitudes and abilities
    c. Personality

B. Suggested Teaching-Learning Activities

Note to the teacher: At the present time there are approximately 52 different jobs in nursing. The majority of these jobs are due to specialization or are "off-shoots" of the nursing profession.

1. Use transparency "Nurse Specialists, R.N.," p. 162 to illustrate some of these occupations.
2. Have a rap session on the various ways nursing serves you.
    a. Takes care of the well-being of the well and sick persons
    b. Assists in planning health programs and facilities
    c. Helps people plan their own care
    d. Counsels people
    e. Good neighbor
3. Show transparency "Nursing Team," p. 163. Discuss how each occupation fits into the nursing team.
4. Invite a director of the local hospital or nursing home to talk about some of the changes in nursing and how this field has expanded into many areas.

5. Have a panel discussion on the differences between a nurse with one year of training, an associate degree, a diploma from a hospital school of nursing, and a nurse with a college degree.

6. Arrange a panel discussion with several nurses who have different job titles, explaining how their duties differ. Nurses with different job titles might include Red Cross nurse, coordinator of a practical nurse program, school nurse, head nurse, etc. Enlist the aid of a professional or practical nurse to help students in the following activities:

   a. Preparing a nursing care plan for a ten-year-old patient who has had an appendectomy

   b. To take temperature, pulse, and respiration, and listen for a blood pressure reading

   c. Doing a simple first-aid dressing

7. Arrange for a surgical technician to demonstrate hand-washing procedures and have students practice this.

   Note: This activity could be correlated with science class by taking scrapings from under the student's fingers before and after hand-washing, culturing them and then viewing these results under the microscope.

8. Make arrangements with your local hospital administrator for permission to have students see types of equipment used in surgery and how these are cared for and maintained.

9. Show films; for example, "Military Nurse," "Professional Nurse," and "Your Career in Nursing." Suggested questions following viewing of the films include:

   a. What different types of roles did you see them nursing people in?

   b. What is the relationship between the nursing team and other health workers?

10. Invite the director of in-service training at your local hospital to discuss opportunities for nurse's aides and orderlies. Ask the director to bring a nurse's aide, a ward clerk, and an orderly to talk about how they function as a member of the nursing team.

11. Make arrangements for students to visit a health occupations class in the high school or a vocational-technical area vocational school.

a. View a patient care unit and types of furniture.

b. Examine a "Chase" doll and ask questions about the utilization of this equipment.

c. Examine mock-ups and models of human anatomy.

d. Talk with students about their clinical experiences in hospitals, etc.

e. Browse through textbooks, magazines and information on futures in nursing.

f. Ask questions about enrollment procedures, qualifications, for entry, job opportunities, etc.

12. Suggestions for integration into other junior high courses:

a. Ask the math teacher to use "Conversion Arithmetic Problems," pp. 164-165 to demonstrate use of mathematics in nursing services. Encourage the math teacher to inform students that the health services have used the metric system throughout their existence.

b. Ask the language arts teacher to help students write and perform a play on the lives of famous women in nursing. For example, Florence Nightengale, Clara Barton, Mary Breckinridge (midwifery in the U.S.).

Note: In May a full week is designated as National Hospital week. Florence Nightengale's birthday is in the same week.

c. Ask the social studies teacher to have students examine different ways that nurses have contributed to solving social problems; for example, Jane Adams' establishment of the Hull House in Chicago; the Frontier Nursing Service, Hyden, Kentucky and its impact on population and infant and maternal mortality; and the Red Cross nurse and how she functions during local and national disaster.

Note: Contact the director of nursing at local hospitals or coordinator of nursing education for back issues of the American Journal of Nursing with articles about nurses in foreign countries or experiences in this country.

C. Suggested Evaluation

1. Have students prepare an organizational chart showing the relationship of each level of nursing and the progression an individual might take to work up through the ladder from nurse's aide to master's degree in nursing. Evaluate student's ability to identify each person's function in the nursing team.

2. Have each student pick three levels of nursing, including specialty areas and tell why they would or would not be suited to this job. (Include educational requirements, aptitudes, and how many places of work.)

D. Suggested Resources

1. Books
    a. Careers in Medical Science
    b. Health Careers Guidebook
    c. Job Descriptions and Organizational Analysis in Hospitals and Other Related Services
    d. Kentucky Health Careers Curriculum Guide
    e. Nursing and Allied Careers
    f. So You Want to be a Nurse
2. Pamphlets - Obtain pamphlets from the following sources.
    a. American Association of Nurse Anesthetists
    b. American Association of Operating Room Nurses
    c. American College of Nurse Midwives
    d. American Nurses Association
    e. Kentucky Nursing Home Association
    f. Kentucky State Board of Nurse Examiners and Nursing Education
    g. National Federation of Licensed Practical Nursing
    h. National League for Nursing
3. Films and Filmstrips
    a. "Military Nurse"
    b. "Professional Nurse"
    c. "Your Career in Nursing"
4. Resource Persons
    a. Local professional and practical nurses
    b. Director of hospital in-service programs

5. Student Materials

    a. "Conversion Arithmetic Problems," pp. 164-165

6. Transparencies

    a. "Nurse Specialists, R.N.," p. 162

    b. "Nursing Team," p. 163

V. The student will be able to explain the types of jobs found in the medical laboratory and radiology with a description of the functions related to four occupations in these two areas.

A. Suggested Content

1. Types of laboratory or radiology services

   a. Laboratory

      (1) Diagnostic (examination of blood and body fluids)
      (2) Bacteriological findings and control
      (3) Examination of cells and tissues
      (4) Blood bank

   b. Radiology

      (1) Diagnostic (X-ray views of human body)
      (2) Treatment using radio active materials

2. Types of jobs (examples)

   a. Pathologist

   b. Microbiologist

   c. Medical technologist

   d. Medical laboratory technician

   e. Certified laboratory assistant

   f. Cytotechnologist

   g. Histologic technician

   h. Blood bank technologist

   i. Nuclear medical technologist and technician

   j. Radiologist

   k. Diagnostic X-ray technologist

   l. Radiation therapy technologist

   m. X-ray technician

   n. Other

      (1) Electrocardiograph technician (E.K.G. or E.C.G.)
      (2) Laboratory and X-ray aides

3. Employment opportunities
    a. Hospitals
    b. Private laboratories
    c. Government agencies (city, county, state, federal, W.H.O.)
    d. Clinics
    e. Doctors' offices
    f. Armed forces
    g. Mission fields
    h. Volunteer agencies
    i. Educational and research facilities
4. Requirements for entry
    a. Education
    b. Interest in science, math, and physics
    c. Manual and physical dexterity
    d. Good health
    e. Certification and licensure
5. Self-assessment
    a. Attitudes
    b. Aptitudes and abilities
    c. Personality

B. Suggested Activities

1. Have students research jobs in the medical laboratory and radiology. Follow up this activity by having them prepare a bulletin board depicting how these jobs contribute to maintaining and restoring health.

2. Invite a medical laboratory technologist and a radiological technician to talk about the relationship of their work.

3. Show films; for example: "Careers: Medical Technologist," "In A Medical Laboratory," "First A Physician," "More Than A Job," and "Training in X-ray Technology." Suggested discussion

following viewing of film(s):

   a. Relationship of medical laboratory and/or x-ray technologist to the total health services

   b. Types of work that were being done and types of equipment being used

4. Arrange for different students to "shadow" laboratory and x-ray workers. Prior to this experience show the team concept in the medical laboratory and radiology department. See "Medical Laboratory Team," p. 166.

5. Arrange for students to visit a private medical laboratory to see demonstrations of the techniques in making an x-ray film of the skeletal system.

6. Arrange for students to visit a blood bank. Following this visit, have them write a report about the kinds of activities observed, the importance of this service, and the absolute need for accuracy in handling and distributing blood.

7. Ask students this question, "How can you go from a laboratory or radiology aide to become a pathologist or a radiologist." After students have discussed this question, show transparency and explain the ladder concept. See "Ladder Approach to a Professional Career," p. 167.

   Note to the teacher: This ladder concept applies to all other health occupations and should be stressed when teaching other objectives.

8. Arrange for students to see electronic laboratory equipment and find out how the equipment is used.

9. Suggestions for integrating career information in laboratory and radiology science in other junior high school courses.

   a. Ask the social science teacher to have students discuss how the medical laboratory sciences helped to build the Panama Canal by finding the cause of yellow fever.

   b. Ask the art teacher to have students prepare posters demonstrating blood cells. Ask students to use these posters and tell how blood cells may be counted.

   c. Ask the language arts teacher to have a session dealing with medical terms used in the medical laboratory and radiology. For example:

      (1) Cyto--cell
      (2) Histo--tissue
      (3) Micro--extremely small

(4) Cobalt--x-ray therapy
(5) Scan--use of radioactive dye to visualize parts of body

10. Have students write the Atomic Energy Commission, Oak Ridge, Tennessee, for information regarding preparation, handling, and use of nuclear materials for use in diagnosing a thyroid condition.

C. Suggested Evaluation

1. Have students prepare a notebook illustrating what people working in laboratory and radiology do. Notebook should include illustrations of work activities such as using a microscope, petre dish for cultures, x-ray machine or pictures, along with explanation of work performed by each person, educational requirements and their interest in this kind of work. Evaluate student's ability to identify work activity with occupations in laboratory and radiological sciences.

2. Have students prepare a list of workers in the laboratory and radiology and the roles each one plays in the total functions of these two units. (Note: This could be a "shadowing" experience.) Evaluate student's accuracy in identifying the workers and their functions.

D. Suggested Resources

1. Books

   a. Careers in Medical Science

   b. Careers in Therapy, Technology and Nutrition

   c. Health Career Guidebook

   d. Job Descriptions and Organizational Analysis in Hospitals and Other Related Health Services

   e. Kentucky Health Careers Curriculum Guide

   f. Your Future in Medical Technology

2. Pamphlets - Obtain information from the following sources.

   a. American Association of Blood Banks

   b. American Society of Medical Technologists

   c. American Society of Radiological Technologist

   d. American Society for Microbiology

   e. Kentucky Health Careers Association

3. Films and Filmstrips
    a. "Career: Medical Technologist"
    b. "In A Medical Laboratory"
    c. "More Than a Job"
    d. "Training In X-ray Technology"
4. Resource Persons
    a. Pathologist
    b. Medical laboratory technologist
    c. E.K.G. technician
    d. Radiology technologist
5. Transparency Masters
    a. "Ladder Approach to a Professional Career," p. 167
    b. "Medical Laboratory Team," p. 166

VI. The student will be able to make an analysis of three jobs in dietary services and interest in these types of occupations.

A. Suggested Content

1. Types of dietary services

   a. Meal planning and serving patients

   b. Planning special types of diets

   c. Consultant services

   d. Educational services

2. Types of jobs

   a. Dietitian

      (1) Clinical
      (2) Teaching
      (3) Research
      (4) Consultant

   b. Nutritionist

   c. Dietetic technician

   d. Dietetic assistant

   e. Dietetic workers

      (1) Clerical
      (2) Preparation of food
      (3) Serving of food

3. Places of employment

   a. Government agencies

   b. Private industry

   c. Hospitals

   d. Doctor's offices

   e. Clinics

4. Requirements for entry

   a. Education

   b. Interest in science and food preparation

    c. Desire to help people improve nutrition
    d. Good physical and mental health
5. Self-assessment
    a. Attitudes
    b. Aptitudes and abilities
    c. Personality

B. Suggested Teaching-Learning Activities

Note to the teacher: Teaching careers in dietary health occupations provides excellent opportunities to help students understand how food and nutrition contribute to the individual's physical, mental, and social well-being, as well as the peace and security of nations around the world.

1. Encourage students to bring clippings from newspapers and magazines for discussion of nutritional problems and relationships to jobs in dietetics and nutrition. Show transparency "Dietetics and Nutrition," p. 168.
2. Show films; for example: "The Career Game," "The Search for Meaning," or "Toward the Victory of Health." Suggested questions following viewing of these films include:
    a. What kind of work was being done?
    b. What information did you see about the importance of dietetics in sickness and health?
    c. How many different kinds of jobs are available for a dietitian?
3. Arrange for several students to "shadow" a hospital dietitian and report back to class regarding types of workers in the dietary department and type of equipment being used.
4. Ask students to invite a dietitian or a dietetic technician to explain to the class how she plans a therapeutic diet.
5. Have students use an imaginary person and develop a bulletin board illustrating all of the things that the dietary team does for this person.
6. Appoint two students to investigate laws regarding food handlers and report this information to the class.
7. Ask students to discuss four possible routes to a professional career in dietetics.

8. Make arrangements to visit the kitchen facilities of the school lunch program to see the different kinds of jobs being performed and the types of equipment that are being used.

9. Have two students explain "How I would go about choosing a career in dietetics."

10. Suggestions for integration of dietetic careers in other junior high courses:

    a. Ask the math teacher to have students prepare quantities of food to be prepared and served to patients and employees. See p. 169 for "Typical Arithmetic Problems for Dietetics."

    or

    Ask him or her to have the student figure the number of calories in different foods to equal 2,400 calories spread over three meals a day.

    b. Ask the art teacher to have students plan a dietetic day, preparing and displaying posters demonstrating "You are what you eat." Diabetic week is during November, and you may want to work with local health departments on publicity for their screening relating to careers in dietetics.

    c. Ask the social studies teacher to invite a dietitian to tell the history of dietetics and how nutrition affects social conditions. Also research and discuss careers in nutrition and the impact of nutrition on developing countries and in the U.S. relative to prevention of mental retardation.

    d. Ask the language arts teacher to prepare a newspaper article on the role of the dietitian in the total health care of a patient.

C. Suggested Evaluation

1. Have each student present a five-minute presentation on some nutrition problem. Evaluate student's ability to identify with the role of teaching nutrition.

2. After students have visited a school lunchroom or other types of dietary services, have them list and describe the jobs each worker performs, including which job they want and reasons why. Evaluate student's knowledge of the jobs and preparation necessary to perform the job.

D. Suggested Resources

1. Books

    a. Careers in Medical Science

b. Careers in Therapy, Technology and Nutrition

c. Health Careers Guidebook

d. Job Descriptions and Organizational Analysis in Hospitals and Other Related Health Services

e. Kentucky Health Careers Curriculum Guide

f. Your Future as a Dietitian

2. Pamphlets - Write to the following organizations for these items.

   a. American Dietetic Society

   b. American Public Health Association, Nutrition Section

   c. American Society for Hospital Food Service Administration

   d. Kentucky Department of Human Resources, Nutrition Services

3. Films and Filmstrips

   a. "Search for Meaning"

   b. "The Career Game"

   c. "Toward the Victory of Health"

4. Resource Persons

   a. Hospital dietitian

   b. Dietetic assistant

5. Student Materials

   a. "Typical Arithmetic Problems for Dietetics," p. 169

6. Transparnecy Master

   a. "Dietetics and Nutrition," p. 168

VII. The student will be able to identify three jobs in rehabilitation and explain how this type of work helps to restore people to a useful life.

A. Suggested Content

1. Type of rehabilitation services
    - a. Testing of muscles, nerves and skin conditions
    - b. Provides physical treatment routine
    - c. Teaches and trains the physically handicapped
    - d. Provides braces, prothesis and other devices
    - e. Detects vision problems
2. Types of jobs
    - a. Physical therapist
    - b. Corrective therapist
    - c. Physical therapy aide
    - d. Physical therapy assistant
    - e. Orthotist
    - f. Orthopist
    - g. Prosthetist
    - h. Optometrist
    - i. Optician
3. Employment opportunities
    - a. Government agencies
    - b. Private business
    - c. Hospitals
    - d. Rehabilitation clinics
    - e. Private practice
4. Qualifications for entry
    - a. Education

    b. Interest in people, science and mechanics
    c. Good health
    d. Apprenticeship
    e. Licensure & certification

5. Self-assessment
    a. Attitudes
    b. Aptitudes and abilities
    c. Personality

B. Suggested Teaching-Learning Activities

1. Use transparency "Speech and Hearing," p. 170 to illustrate additional occupations in rehabilitation.

2. Find out what health facilities and agencies in your community provide rehabilitation services for handicapped children, the deaf person, and physical rehabilitation, etc.

3. Have a rap session for students to define the meaning of rehabilitation.

4. Make arrangements for a physical therapist to visit the class and demonstrate some kinds of physical therapy treatment. Encourage students to participate in the demonstration.

5. Plan a role-playing situation to demonstrate assisting a patient in learning to use crutches (after this has been demonstrated by the physical therapist).

6. Show films: "Within Your Hands" or "Men and Mobility." Suggested questions include:
    a. What kind of work was being done?
    b. How can this kind of service help a handicapped person become useful?

7. Arrange a field trip to one of the following:
    a. Brace shop
    b. Vision product company
    c. Opthomologist's office
    d. Hearing aid company

e. Rehabilitation center

Note to the teacher: Have students observe what the health workers are doing on the job and the type of equipment being used. You may wish to appoint one or two students to interview workers during the field trip and report findings to the class.

8. Students might role play performing an eye examination using a lettered eye chart.
Note: The school nurse can help them with this project.

9. Use transparency "Vision Care," p. 171 when discussing occupations in this field.

10. Encourage students interested in the technical side of vision care to visit a local business that fills prescriptions and observe how the optician grinds the lens and puts them into frames.

11. Divide the students into groups of four to six. Have each group prepare a skit on the difference between an ophthalmologist and optician, including preparation of a bulletin board depicting these two occupations. Have students rate each skit and bulletin board on a 10-point scale.

12. Show films: "Dispensing Opticians," "Optical Laboratory," "Optometry," or "A Career With Vision." Initiate discussion by asking if students have had eyes examined. If so:

    a. What was done that was in the film?

    b. What kind of equipment was used that was like that in the film?

    c. What did you see that you have not seen before?

13. Suggestions for integrating health careers in other junior high school programs:

    a. Ask the social studies teacher to point out the fact that one of the contributions of World War II and the Korean War was the development and expansion ot rehabilitation services and to discuss the impact on present treatment of accident cases and persons with crippling diseases.

    or

    Have students study Roosevelt's impact on rehabilitation and activities carried out at the Rehabilitation Center, Warm Springs, Georgia.

b. Ask the language arts teacher to prepare a vocabulary of terms related to the eye; for example, optical, ophthalmia (inflammation of eye), ophthalmocopia (eye strain) and optics.

c. Ask the physical education teacher to develop a program to restore muscle tone. Students should report how they feel their muscles stretch and relax.

d. Ask the math teacher to invite an optometrist to tell students how he measures vision corrections and show formula for lens prescription.

e. Ask the social studies teacher to discuss the social impact of glaucoma on quality of living, and have students relate how these types of health problems can be prevented.

C. Suggested Evaluation

1. Have students select one job in physical rehabilitation and write a job description, including working conditions, qualifications and why or why not they would like this job. Evaluate student's accuracy in identifying responsibilities and preparation for each type and level of job.

D. Suggested Resources

1. Books

   a. Careers in Medical Science

   b. Careers in Therapy, Technology and Nutrition

   c. Health Careers Cuidebook

   d. Job Descriptions and Organizational Analysis in Hospitals and Other Related Health Services

   e. Kentucky Health Career Curriculum Guide

   f. Your Future in Optometry

2. Pamphlets - Write the following organizations for this material.

   a. American Academy of Pnysical Medicine and Rehabilitation

   b. American Optometric Association

   c. American Orthotics and Prosthetics Association

   d. American Physical Therapy Association

   e. American Speech and Hearnig Association

    - f. Guild for Prescriptions Opticians of America, Inc.
    - g. National Association for Music Therapy, Inc.
    - h. National Association for Social Workers

3. Films and Filmstrips
    - a. "Dispensing Opticians and Optical Laboratory"
    - b. "Men and Mobility"
    - c. "Optometry: A Career with Vision"
    - d. "Within Your Hands"

4. Resource Persons
    - a. Local ophthalmologist (M.D.)
    - b. Local optometrist
    - c. Optician
    - d. Physical therapist
    - e. Speech and hearing therapist

5. Transparency Masters
    - a. "Rehabilitation Careers," Unit II, p. 92
    - b. "Speech and Hearing," p. 170
    - c. "Vision Care," p. 171

VIII. The student will be able to name and describe at least three emerging health occupations.

A. Suggested Content

1. Types of services provided by these workers
    - a. Chronic diseases
    - b. Environmental diseases
    - c. Ambulance and emergency services
    - d. Electronic equipment for monitoring
2. Types of jobs (examples)
    - a. Allergy environmentalist
    - b. Ambulance-emergency technician
    - c. Bio-medical engineering technician
    - d. Cardiovascular technician
    - e. Child health associate
    - f. Computer operator in health data
    - g. Extracorporeal technician
3. Employment opportunities
    - a. Government agencies, including fire and police
    - b. Hospitals
    - c. Clinics
    - d. Private business
    - e. Voluntary health agencies
    - f. Research centers
4. Qualifications for entry
    - a. Interest in people
    - b. Mechanical ability
    - c. Education

    d. Certification and/or licensure

5. Self-assessment

    a. Attitudes

    b. Aptitudes and abilities

    c. Personality

B. Suggested Teaching-Learning Activities

1. Assign a committee to interview hospital administrator and a local health officer to find out what new jobs have developed in these organizations during the past five years and report findings to class. See "Examples of New Health Occupations," p. 172.

2. Ask the students to search through newspapers and magazines for articles related to congressmen's and other national leaders' opinions on the need for health services. Discuss relationship to jobs in health.

3. You might have the students role play a congressional hearing regarding proposed legislation for national health insurance. Ask several students to volunteer to act the role of congressmen. Divide the remainder of the class into two groups: one group to oppose the legislation, the other group to support the legislation. Ask students to include information regarding new jobs that could emerge as the result of national insurance.

4. Have students invite a resource person such as a director of a vocational health occupation program to talk with the students on trends in the employment of technical and nonprofessional personnel as this is affected by a concentration of health workers in an area, the type of job, and the community needs.

5. Have the class design and build a mobile depicting all of the new and emerging health occupations.

    Note to the teacher: Suggest to the class that they relate these occupations to specific established professions and occupations. For example: surgical technician to nursing, allergy environmentalist to environmental engineer and/or the medical specialty.

6. Suggested activities for integration of these careers in other junior high courses:

    a. Ask the social studies teacher to use the information that one out of every fifteen people is now receiving care and treatment in hospitals and work back through time to show how this has developed. For example: the establishment of hospitalization insurance, population explosion, technology, etc. Relate this information to the impact on manpower needs.

or

b. Use an environmental situation such as an increase of industrial waste materials in air and water, and show how this environmental hazard has created new jobs in health.

C. Suggested Evaluation

1. Give students a list of new and emerging health occupations. Have them identify the purpose for each one. Evaluate student's ability to correlate the occupation with purpose.

D. Suggested Resources

1. Books
    a. Health Careers Guidebook
    b. Job Descriptions and Organizational Analysis in Hospitals and Related Health Services
2. Resource Persons
    a. Dialysis technician
    b. Surgical technician
    c. Environmental health service worker
    d. Home health aide
3. Student Materials
    a. "Examples of New Health Occupations," p. 172

SUPPORTIVE MATERIALS

FOR

UNIT THREE

REFERENCE LIST FOR UNIT THREE

Books

1. Careers in Hospital Maintenance, Administration and Business Practices, Book Division, Department GL, Fairchild Publications, Inc.
2. Careers in Medical Science, Diane Seide
3. Careers in Therapy, Medical Technology, and Nutrition, Book Division, Department GL, Fairchild Publications, Inc.
4. Health Careers Guidebook, United States Department of Labor, Superintendent of Documents, United States Government Printing Office
5. Horizons Unlimited, American Medical Association
6. Job Description and Organizational Analysis in Hospitals and Related Health Services, United States Department of Labor, Superintendent of Documents, United States Government Printing Office
7. Kentucky Health Careers Curriculum Guide, Kentucky Association of Health Careers
8. Nursing and Allied Careers, Book Division, Department GL, Fairchild Publications, Inc.
9. So, You Want To Be A Nurse, Allen E. Nourse, Harper and Row
10. You and a Health Career, Gordon Lebowitz, Book Division, Fairchild Publications, Inc.
11. Your Future as a Dietitian, Members of the American Dietetic Association, Arco-Rosen Career Guidance Series, Career World Book Service
12. Your Future in Medical Technology, Grace Paul, Arco-Rosen Career Guidance Series, Career World Book Service
13. Your Future in Optometry, James R. Gregg, Arco-Rosen Career Guidance Series, Career World Book Service

Pamphlets - Obtain pamphlets from the following sources.

1. American Academy of Physical Medicine and Rehabilitation
2. American Association of Blood Banks
3. American Association of Family Practice
4. American Association of Medical Assistants
5. American Association of Medical Records Librarians
6. American Association of Operating Room Nurses

7. American College of Hospital Administrators

8. American College of Nursing Home Administrators, American Nursing Home Association

9. American Dental Assistants Association

10. American Dental Association

11. American Dental Hygienist Association

12. American Dietetic Association

13. American Medical Association

14. American Nurses Association

15. American Optometric Association

16. American Orthotics and Prosthetics Association

17. American Pharmaceutical Association

18. American Physical Therapy Association

19. American Public Health Association

20. American Society for Hospital Food Service Administration

21. American Society for Microbiology

22. American Society of Anesthesiology

23. American Society of Hospital Engineers

24. American Society of Medical Technologists

25. American Society of Radiological Technologists

26. American Speech and Hearing Association

27. Guild for Prescription Opticians of America, Inc.

28. Health Careers in Kentucky

29. Hospital Management Systems Society

30. National Association for Music Therapy, Inc.

31. National Association for Social Workers

32. National Association of Certified Dental Laboratories, Inc.

33. National Federation of Licensed Practical Nurses

34. National Executive Housekeepers Association

35. National League for Nursing

Films and Filmstrips

1. "A Matter of Opportunity," 27 minutes, Modern Talking Picture Service, free loan (#3882)

2. "American Doctor," color and sound, 16mm., 29 minutes. American Osteopathic Association

3. "Bartlett & Son," color and sound, 16mm., 35 minutes. Modern Talking Picture Service, free loan

4. "Bright Future," color and sound, 16mm., 28 minutes. American Dental Association

5. "Career: Medical Technologist," color and sound, 16mm., 23 minutes. National Committee for Careers in Medical Technology, free loan

6. "Code Blue," 7 minutes, Modern Talking Picture Service, free loan, (#4409)

7. "Dental Assistant," color, 16mm., 14 minutes. Audio-Visual Services, University of Kentucky

8. "Dispensing Opticians and Optical Laboratory," Encyclopedia Britannica, Education Corporation, Department 10A, No. S-81224

9. "First a Physician," color and sound, 16mm., 27 minutes. Photo Products Department, E,I, DuPont Company, Inc., free loan. Note: Radiologist

10. "Hands We Trust," black and white, sound, 16mm., 30 minutes. American College of Surgeons

11. "In a Medical Laboratory," color, 28 minutes. Details the work going on in a medical laboratory. May be obtained from the local Cancer Society.

12. "Making of a Doctor," black and white, sound, 16mm., three parts, 30 minutes each. National Education Television, Indiana University

13. "Men and Mobility," color, 17 minutes. American Orthotic and Prosthetic Association

14. "Middle Management in Health Care Institution," black and white, 16 mm., 27 minutes, American Hospital Association Film Library

15. "Military Nurse," color and sound, 16mm., 14 minutes. U.S. Department of Defense, DACOWITS, Room #3C972, the Pentagon, Washington, D.C. 20301

16. "More Than a Job," color and sound, 16mm. 27 minutes. ANSCO, free loan

17. "Mr. Galen Comes to Town," color, 28 minutes, Modern Talking Picture Service, free loan

18. "Optometry: A Career With Vision," color and sound, 14 minutes. Modern Talking Picture Service

19. "Pattern of a Profession," color and sound, 16mm., 28 minutes. American Dental Association

20. "Professional Nurse," color and sound, 16mm., 27 minutes. Army Nurse Counselor, Army Area Headquarters Offices or U.S. Department of the Army, free loan

21. "Set the Stage for Dental Health," Modern Talking Picture Service, free loan (#4291)

22. "Someone You Can Trust--Someone You Can Be," color and sound, 16mm., 29 minutes. American Academy of General Practice

23. "The Career Game," A.D.A. Film, sound and color, 13 1/2 minutes. Explores the professional field of dietetics. Modern Talking Picture Service, free loan

24. "The Fixing Business," color and sound, 16mm., 14 minutes. American Hospital Association, Film Library. Note: Film content hospital admin.

25. "The Search for Meaning," A.D.A. Film, color, 5 minutes. Demonstrates steps for career planning with emphasis on dietetics. Modern Talking Picture Service

26. "This is Pharmacy," color and sound, 16mm., 27 minutes. Sterling Movies, U.S.A.

27. "Time for Tomorrow," black and white, sound, 16mm., 20 minutes. Sterling Movies, U.S.A.

28. "Toward the Victory of Health," A.D.A. Film, color, 14 1/2 minutes. Demonstrates careers in dietetics. Modern Talking Picture Service

29. "Training in X-ray Technology," black and white, sound, 16mm., 13 minutes. Department of Radiology, Stanford University, free loan

30. "What About Tomorrow," 28 minutes, Modern Talking Picture Service, free loan (#4291)

31. "Within Your Hands," black and white, 16 minutes. American Physical Therapy Association

32. "Your Career in Nursing," color and sound, 16mm., 27 minutes. ANA/NLN Film Library, free loan

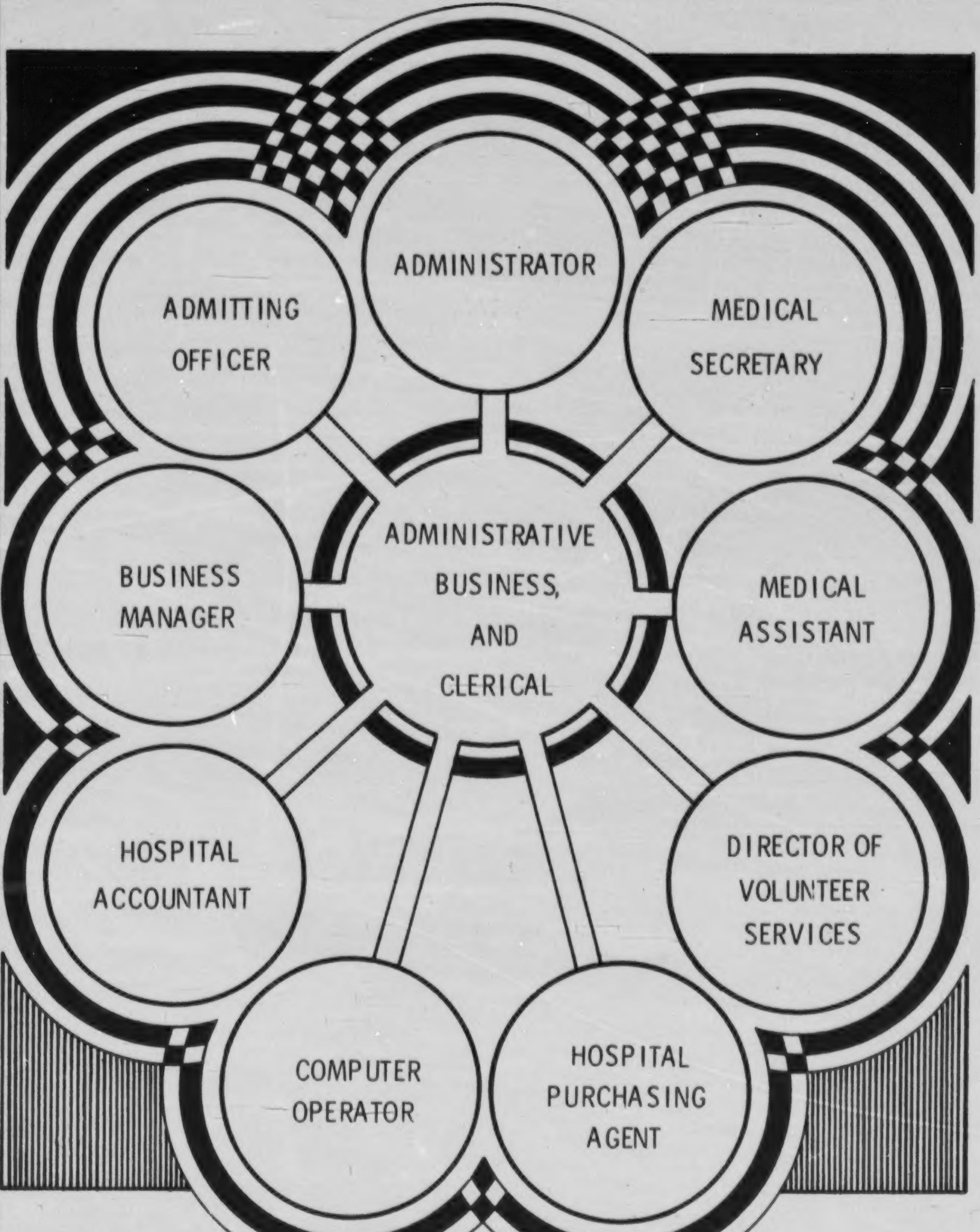
UNIT THREE

Suggestions for Integration into Health and Science Courses

The health or science teacher may wish to integrate this unit into study of basic anatomy utilizing specialty areas as they relate to certain systems of the body. For example, dental science and dietetics can be incorporated into study of the digestive system beginning with the mouth and working through the system. Specialties in the different types of health occupations may also be integrated into the study of various systems. For example, when presenting care of the skin, integrate careers in dermatology. When presenting the skeletal system, integrate with orthopedic nurse, radiological technician, physical therapist, orthopedic assistant, orthotic-prosthetic assistant, and orthotic-prosthetic technician.

Specialty occupations such as the extracorporeal technicians or the dialysis technician can be brought into the study of kidney and heart diseases. The field of medical technology may be integrated into study of bacteria and body fluids. Medical records and administration may be integrated as a part of any of the systems.

Utilization of activities and resources will help students develop a concept of the broad spectrum of health occupations and also give them an opportunity to see how the health worker uses mathematics, social studies, language arts, art, home economics, and industrial arts. Included should be opportunities for students to observe workers on jobs and try out some basic skills (temperature, pulse and respiration, blood pressure, microscope, life saving techniques, precaution on medication usage, problems of diseases related to each body system, and the value of physical exercise and recreation).



MORE. CURR. DEVE CNTR. UK. 993-1

The Hospital Admissions Clerk

Play

Setting: A hospital admission office

Equipment:
- two chairs
- desk
- typewriter

Supplies:
- card file 4" X 8"
- forms
- plastic card
- identification bracelet
- admission form

Points to bring out:
1. The role of an office worker as a member of the health team
2. The type of information to take with you when entering a hospital
3. Consent for treatment

Characters:
- Miss Barlow--admission clerk
- Mr. Burt Cox--patient

Scene: Mr. Burt Cox is entering the hospital for treatment of a surgical condition. Miss Barlow, admissions clerk, has assembled the following materials: admission forms, identification bracelet, and a plastic card which will be used to make an identification plate that will be used to stamp his name on various forms while he is a patient. A file containing cards with names of all patients (patient census file) and the numbers of vacant rooms are placed on one side of Miss Barlow's desk. Mr. Cox has been ushered into the admitting office and is seated across the desk facing Miss Barlow.

Miss Barlow smiles and greets Mr. Cox. "Good afternoon, Mr. Cox. Is there anything I can do to make you more comfortable?"

Mr. Cox: "No, thank you. I'm quite comfortable now."

Miss Barlow: "Dr. Martin made reservations for you to have a semi-private room. Do you have any other preference?"

Mr. Cox: "I don't believe so. I like to have company, so a semi-private room will be fine with me."

Miss Barlow: "I need some information before taking you to your room." (She places the admission form in typewriter and begins asking questions, typing Mr. Cox's answers on the admission form. After completing the preliminary questions, Miss Barlow asks Mr. Cox about financial arrangements.)

Mr. Cox: "I have Blue Cross & Blue Shield."

Miss Barlow: "May I see your card?" (She takes card from Mr. Cox and types the policy number on the admission record.)

Mr. Cox: "I understand Blue Cross will cover all the expenses."

Miss Barlow: "This type of policy usually covers the cost of hospitalization. However, you may need extra services which will not be included in the policy agreement. If this is the case, there will be some extra charges."

Mr. Cox: "What kind?"

Miss Barlow: "It will depend upon what your doctor wants you to have and how well you get along after the operation."

Mr. Cox: "Well, I don't expect anything unusual to happen. Except for this hernia, I'm in excellent health."

Miss Barlow: "Your good health is certainly to your advantage."

Having completed the admission form, Miss Barlow takes another form and says: "Mr. Cox, this is a consent-for-treatment form. Would you please read the statement? If you agree with everything in the statement, please sign your name."

Mr. Cox takes the form and reads the statement. He then asks: "What is the purpose of signing this form?"

Miss Barlow: "It is a protection for you and the hospital. It simply shows that you entered the hospital voluntarily and consented to have whatever treatment is necessary for you to recover from your illness."

Mr. Cox: "Well, I certainly want everything done that needs to be done for me to get back to work as soon as possible." (He signs form.)

Miss Barlow: "I believe that we have just about completed all of the questions. If you will excuse me for a few minutes, I'll prepare an identification bracelet and your charge plate and see what room I have reserved for you."

For the next few minutes, Miss Barlow is busy making the final preparations to complete the admission interview. After completing the preparation of the identification bracelet and charge plate, she selects a card from the card file and types the information from the admission form onto the card. After completing this procedure, she turns to Mr. Cox.

Miss Barlow: "I'm assigning you to Room 520."

Mr. Cox: "Is someone already in the room?"

Miss Barlow (after consulting the card file): "As a matter of fact, there is. Your roommate will be Mr. Jarvis, and he is about the same age as you are."

Mr. Cox: "What about visiting hours?"

Miss Barlow: "The nurse will tell you this information and other information to help you adjust to the hospital routines and regulations." (At this point, Miss Barlow assembles the admission form, identification bracelet, and charge plate. She clips these together and then places a telephone call to the nurse's station to tell the ward clerk that Mr. Cox would be up in a few minutes. After this message is completed, she then escorts Mr. Cox to his room.)

Hospital Admission Form

Hospital number____________________

Name______________________ Date of Birth____________________ Age______

Present Address______________________ Telephone Number______________

Place of Birth______________________ Marital Status S. M. W. D.___

Name of Doctor______________________ Diagnosis____________________

Previous admission____________________ Last Admission Date____________

Occupation__________________________ Employer_____________________

Name of nearest relative______________ Relationship__________________

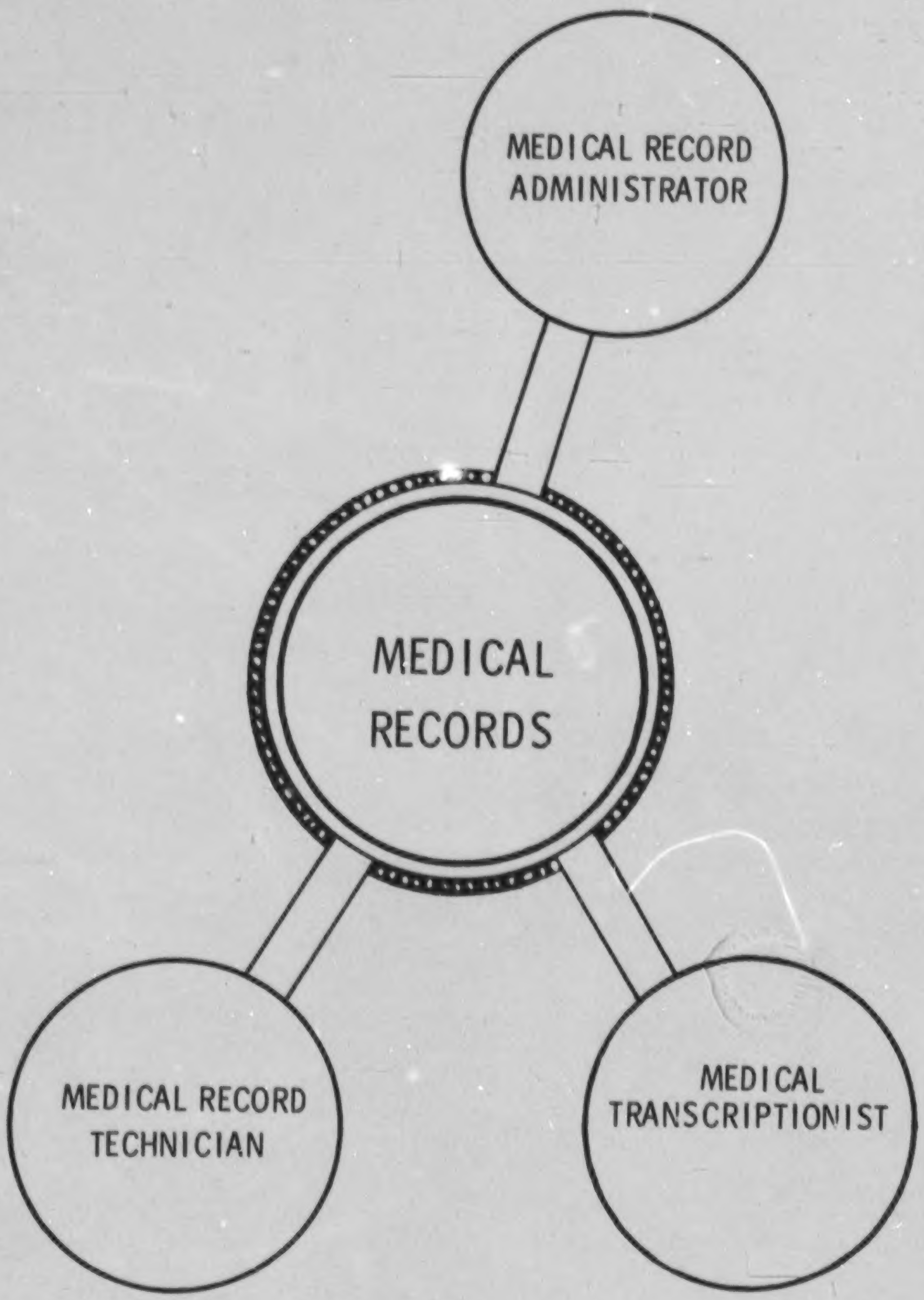
Address of nearest relative______________ Telephone Number_________

Occupation__________________________ Employer_____________________

Method of payment Cash__________ Insurance__________ Medicare__________

Medicade__________

Name of insurance company__________________ Policy Number____________



D. PHIPPS. CURR. DEVE. CNTR. OK. 795-7

Medical Terminology

The following information may be used by the language arts teacher to show relationship of communication skills in the health occupations. Part I is a list of medical terms that have synonyms and generic names for drugs. Part II is a list of medical terms that have words with an opposite meaning. These words may be used when teaching word relationships.

Part I

Medical Terms and Synonyms

	English Word	Medical Terms
1.	appetite	orexia, eusita
2.	finger or toe nails	onyx, unquis
3.	obese	corpulence, adipose, lipopexia, polytrophia polypionia
4.	age	aetas, maturas, maturate
5.	blister	bleb, vesicle, bulla, pomphus
6.	back	dorsal, posterior, notal, sacrum, caudel
7.	blind	amaurosis, typhlosis, ablepsia, caecitas

Generic Names for Drugs

	Trade Name	Generic Name
1.	aspirin	salicylic acid
2.	dilantin	diphenylhydantain
3.	gantrisin	sulfamethizale
4.	neomycin	mycifradin
5.	achroniycin	tetracycline

Part II

Medical Antonyms

1.	adduct--away from midline of body	abduct--towards midline of body
2.	ventral--front side of body	dorsal--back side of body
3.	cephalic--head	caudel--tail of spine
4.	polyphagia--excessive appetite	anorexia--loss of appetite
5.	hypertrichosis--excessive amount of hair	atrickosis--baldness
6.	occipital--back of head	metopian--front of head
7.	anychorrhexis--brittle nails	hapolonychia--soft nails
8.	lycorexia--excessive hunger	sitierigia--refusal to take food
9.	dextral--toward right side	sinistral--toward left side

CONVERSION INFORMATION*

(For Teacher's Use)

LIQUID MEASUREMENT

METRIC	APOTHECARY	HOUSEHOLD MEASUREMENT
.06 ml	1 minims	1 drop
175 ml	12 minims	12 drops
1 ml	15 minims	15 drops
10 ml	2 1/2 fl. drams	2 1/2 teaspoons
15 ml	4 fluid drams	1 Tablespoon
30 ml	1 fluid ounce	2 Tablespoons
500 ml	16 fluid ounces	1 pint
1000 ml	32 fluid ounces	1 quart

WEIGHT MEASUREMENT

METRIC	APOTHECARY	HOUSEHOLD MEASUREMENT
25 mg	3/8 grains	_____
50 mg	3/4 grains	_____
60 mg	1 grain	_____
1 gram	15 grains	_____
4 grams	60 grains-1 dram	_____
7.5 grams	2.5 drams	1.25 ounces
30 grams	1 ounce	1 avoirdupois ounce
1.0 kilograms	2.6792 apothecary lbs.	2.2 pounds

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* For additional information, contact the U.S. Department of Commerce, National Bureau of Standards, Metric Information, Washington, D.C. 20234

_____ Not normally used.

To the Student:

The following is a sample problem related to hospital or nursing home housekeeping skills. After you have read the problem, figure the estimated amounts of linens to distribute to the nursing unit each morning.

Distribution of Linens

The executive housekeeper is responsible for supplying the patient care units with sufficient amounts of linens to last throughout the 24 hours. In estimating the amounts, the housekeeper will start with two basic assumptions: (1) A basic set of linens for one hospitalized or nursing home patient includes 1 large sheet, 1 draw sheet, 1 pillow case, 1 bath towel, 1 wash cloth, and 1 blanket (optional). (2) A basic set of linens to clean and prepare a bed for a new patient includes 2 large sheets, 1 draw sheet, 1 protective pillow cover, 1 mattress pad, 1 bed spread, 1 blanket, 1 bath towel, 1 wash cloth, and 1 bath blanket.

Estimate the nearest amount of linens the housekeeper will need to supply a 15-bed patient care unit for a 24-hour period. In figuring the amount, you will need to take into consideration the following information:

(1) An average of three patients are discharged each day.

(2) An average of four patients may have their beds changed two or three times during the 24-hour period.

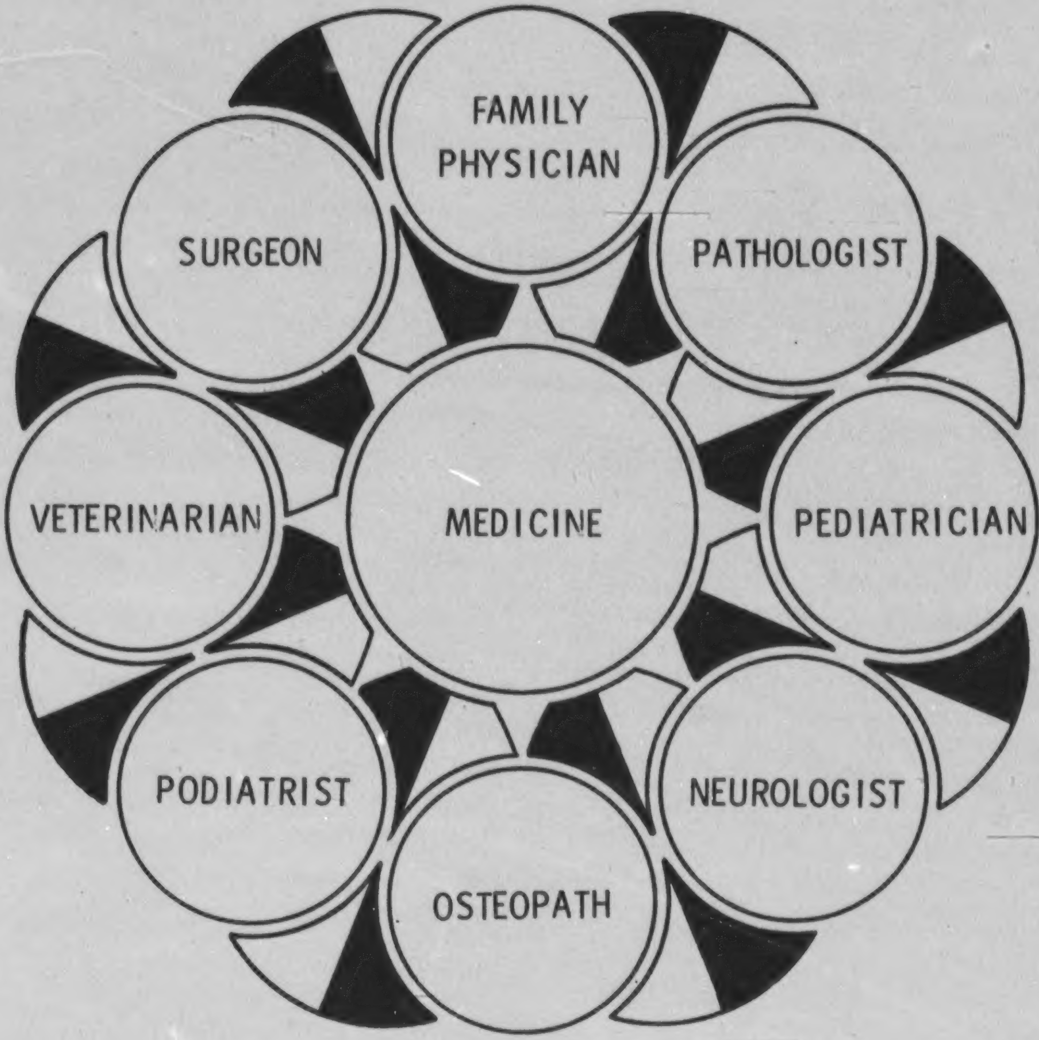
Linen Request and Inventory Form

Linens	Amount
1. Large sheets	
2. Bed spreads	
3. Draw sheets	
4. Pillow slips	
5. Protective pillow coverings	
6. Mattress pads	
7. Bath towels	
8. Wash cloths	
9. Patient gowns	
10. Patient pajama pants	
11. Patient robes	
12. 24 x 24 bed pads	
13. Blankets	

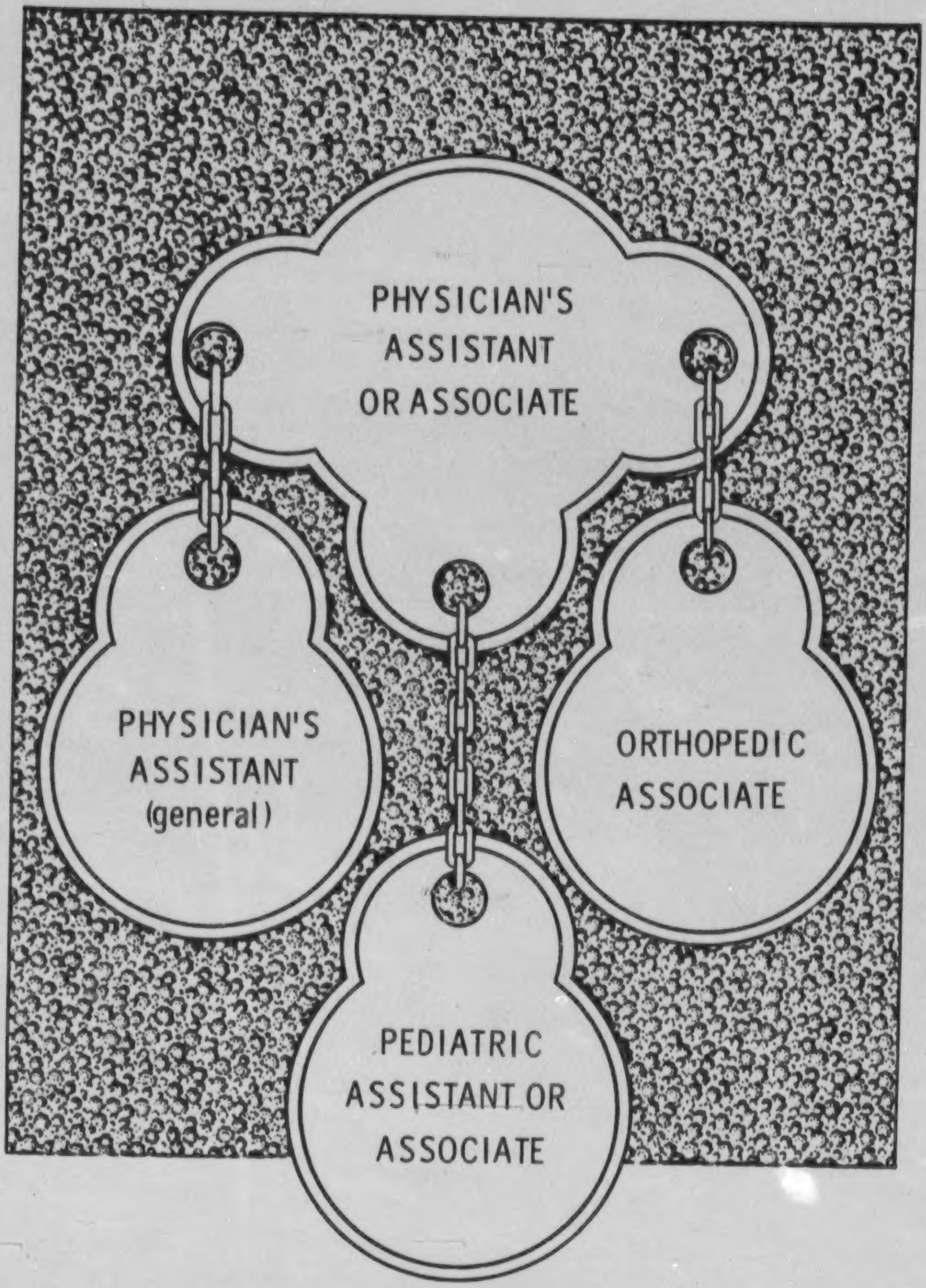
Linen Request and Inventory Forms (For Teacher Use)

Linens	Amount
Large Sheets	33
Bed Spreads	15
Draw Sheets	33
Pillow Slips	15
Protective Pillow Coverings	3
Mattress Pads	6
Bath Towels	24
Wash Cloths	24
Patient Gowns	15
Patient Pajama Pants	7
Patient Robes	7
24 x 24 Bed Pads	12
Blankets	15

Note to teacher: These amounts are estimated amounts.



RGILMORE CURR. DEVE. CNTR. C/K 995-8


PHYSICIAN'S ASSISTANT OR ASSOCIATE
PHYSICIAN'S ASSISTANT (general)
ORTHOPEDIC ASSOCIATE
PEDIATRIC ASSISTANT OR ASSOCIATE

Scheduling A Doctor's Appointment

Place: Doctor's receptionist's office

Equipment:
Desk
Toy telephone
Appointment book

Points to bring out:
1. The medical assistant's role
2. How to make a doctor's appointment
3. The importance of telephone manners in the health services

Characters:
Miss Steward--medical assistant
Mrs. Smith--caller

Telephone Appointment

Time: Monday morning

Scene: Dr. Johnson's office. Miss Stewart, medical assistant, has just completed looking over the doctor's appointments for the day. The telephone rings. Miss Stewart picks up the receiver.

Miss Stewart: "Good morning, Dr. Johnson's office, Miss Stewart speaking. May I help you?"

Mrs. Smith: "I would like to make an appointment to see Dr. Johnson as soon as possible."

Miss Stewart: "May I ask who is calling?"

Mrs. Smith: "This is Mrs. Smith."

Miss Stewart: "Will this be your first visit, Mrs. Smith?"

Mrs. Smith: "Yes, I've never needed to see a doctor before now."

Miss Stewart: "Did you want a physical examination?"

Mrs. Smith: "Well, yes, in a way. You see, I just discovered this lump in my breast and with all the talk about cancer, I decided I had better do something about it right away."

Miss Stewart: "Perhaps it is not too serious. If you will hold a minute, I'll check the appointment book and see how soon I can schedule an appointment for you."

Mrs. Smith: "Oh, please do, I'm so worried."

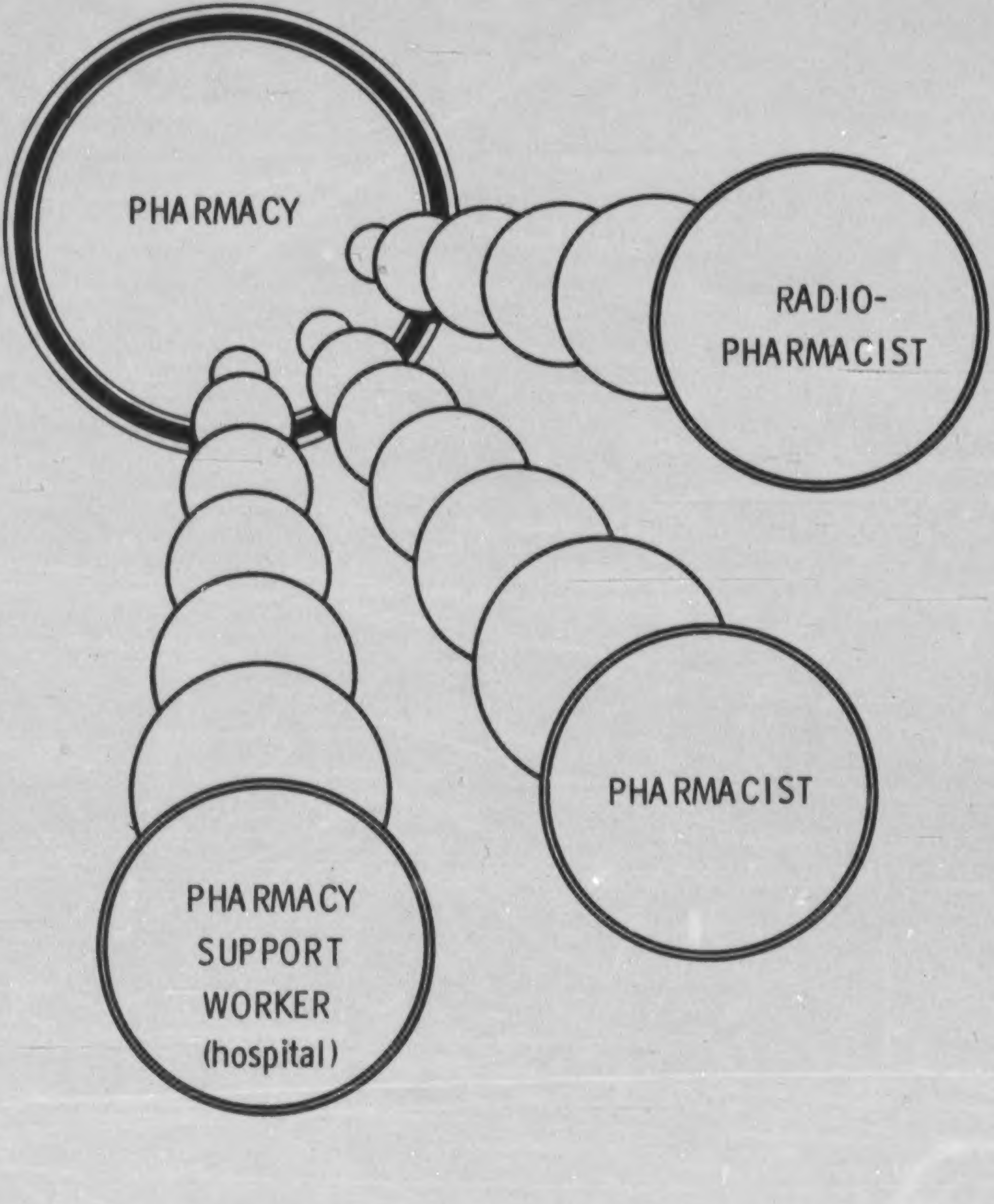
Miss Stewart checks the appointment book and then speaks into the telephone, "Mrs. Smith, Dr. Johnson has every minute scheduled for this week."

Mrs. Smith: "Oh, dear, I simply must see him as soon as possible."

Miss Stewart: "I'll check the appointment book again. Perhaps I have overlooked a cancellation." (As she checks the list of appointments, she finds the name of a patient who had been admitted to the hospital the day before. She speaks into the phone. "Mrs. Smith, I have a cancelled appointment on Wednesday. Will 2:00 P.M. be alright?"

Mrs. Smith: "That will be fine. It was so nice of you to help me. You know, I feel better already."

Miss Stewart: "Thank you, Mrs. Smith. The doctor will be expecting you on Wednesday. The office is on the fifth floor of the Medical Arts Building. When you get off of the elevator, turn to your left. Our office is the third door from the elevator." (She writes Mrs. Smith's name in the book.)



R. GILMORE CURR. DEVE. CNTR. UK. 995-10

Arithmetic Activities For Students

The following are some suggestions for activities in mathematics to show the relationship between math and health occupations. When teaching how to figure doses of medicine for children, take advantage of the opportunity to stress allergies to drugs including allergies to aspirin.

Problem I: Have students figure the amount of aspirin for a 1-year old child, 2-year old child, and a 4-year old child. (Average adult dose is 10 grains or two 5-grain tablets.)

Problem II: Have students figure how many baby aspirin tablets to give a child 6 months old, 18 months old, and 24 months old. (Baby aspirin is 1 1/4 grain tablets.)

Sample arithmetic problems to figure solutions:

1. How much salt is needed to prepare 1 pint of normal saline?

2. How much 1:20 solution can be made from 200 c.c. of a 20 percent solution?

3. How much lysol is needed to prepare one quart of 10 percent solution?

Formulas for figuring a child's dose of medicine:

Young's Rule:

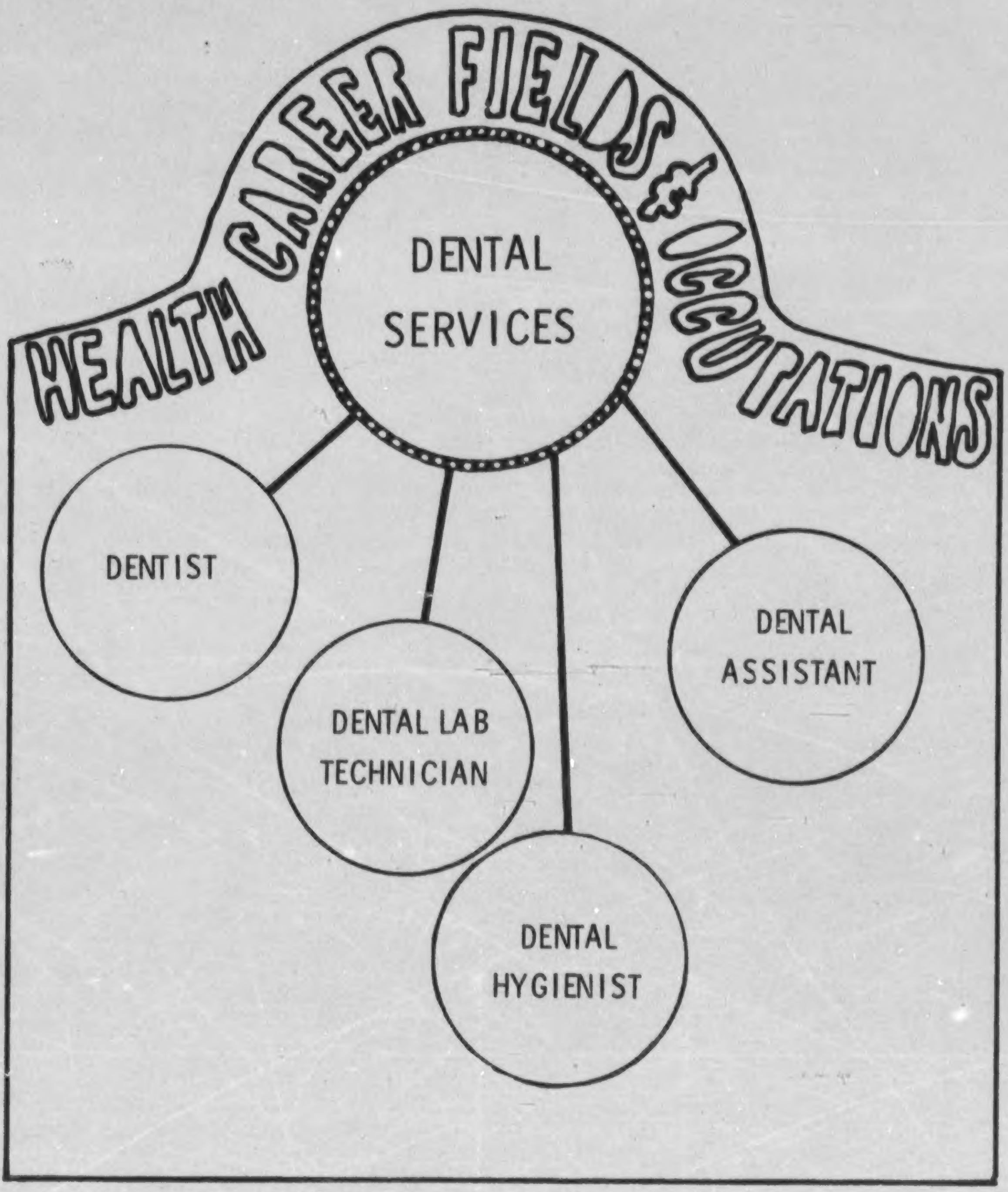
$$\frac{\text{Age of child}}{\text{Age of child} + 12} \text{ X average adult dose=child's dose}$$

Clark's Rule:

$$\frac{\text{Weight of child}}{150} \text{ X average adult dose=child's dose}$$

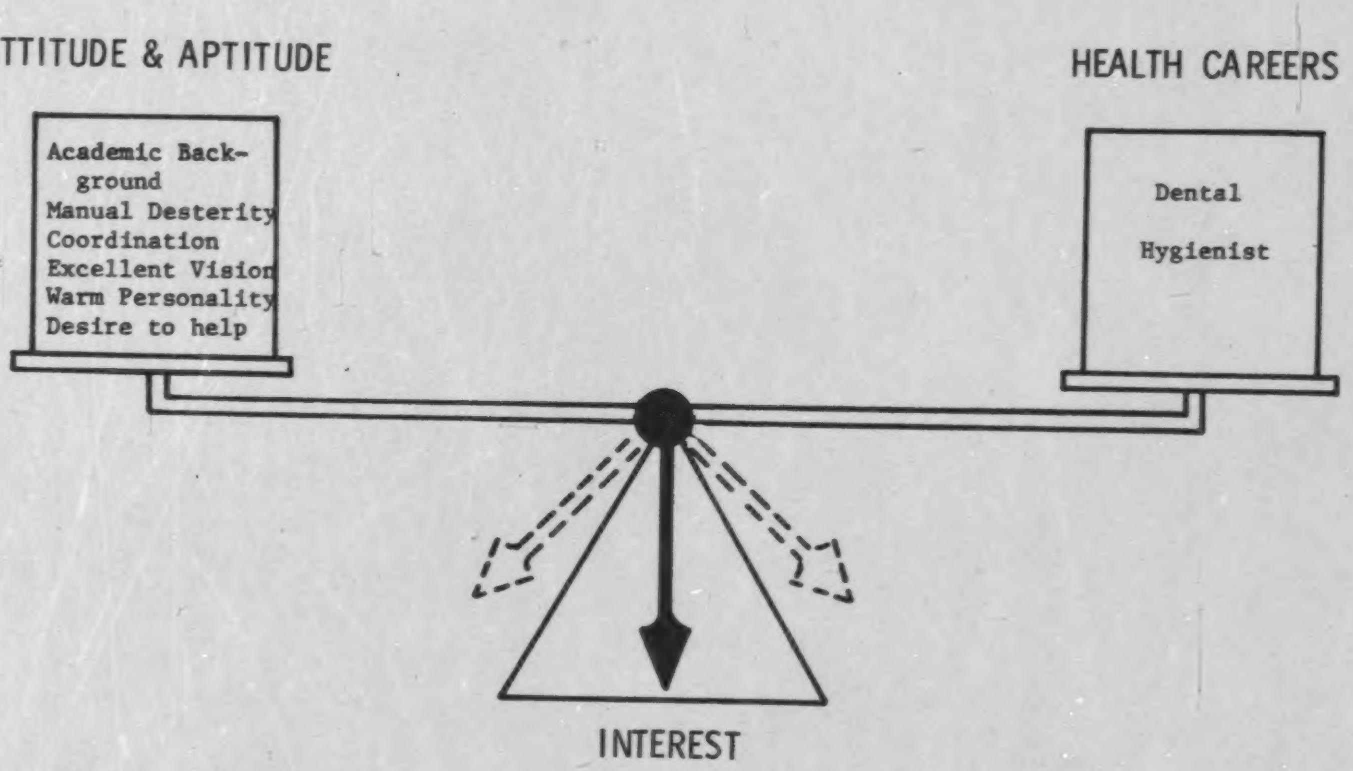
Fried's Rule:

$$\frac{\text{Age in months}}{150} \text{ X average adult dose=child's dose}$$



D. PHIPPS-STOUT. CURR. DEVL. CNTR. UK. 775-2

A BALANCED HEALTH CAREER



ATTITUDE & APTITUDE

- Academic Background
- Manual Desterity
- Coordination
- Excellent Vision
- Warm Personality
- Desire to help

HEALTH CAREERS

Dental Hygienist

INTEREST

TATZER.CURR.DEVE.CNTR. UK 1228

DENTAL SCIENCE CROSSWORD PUZZLE

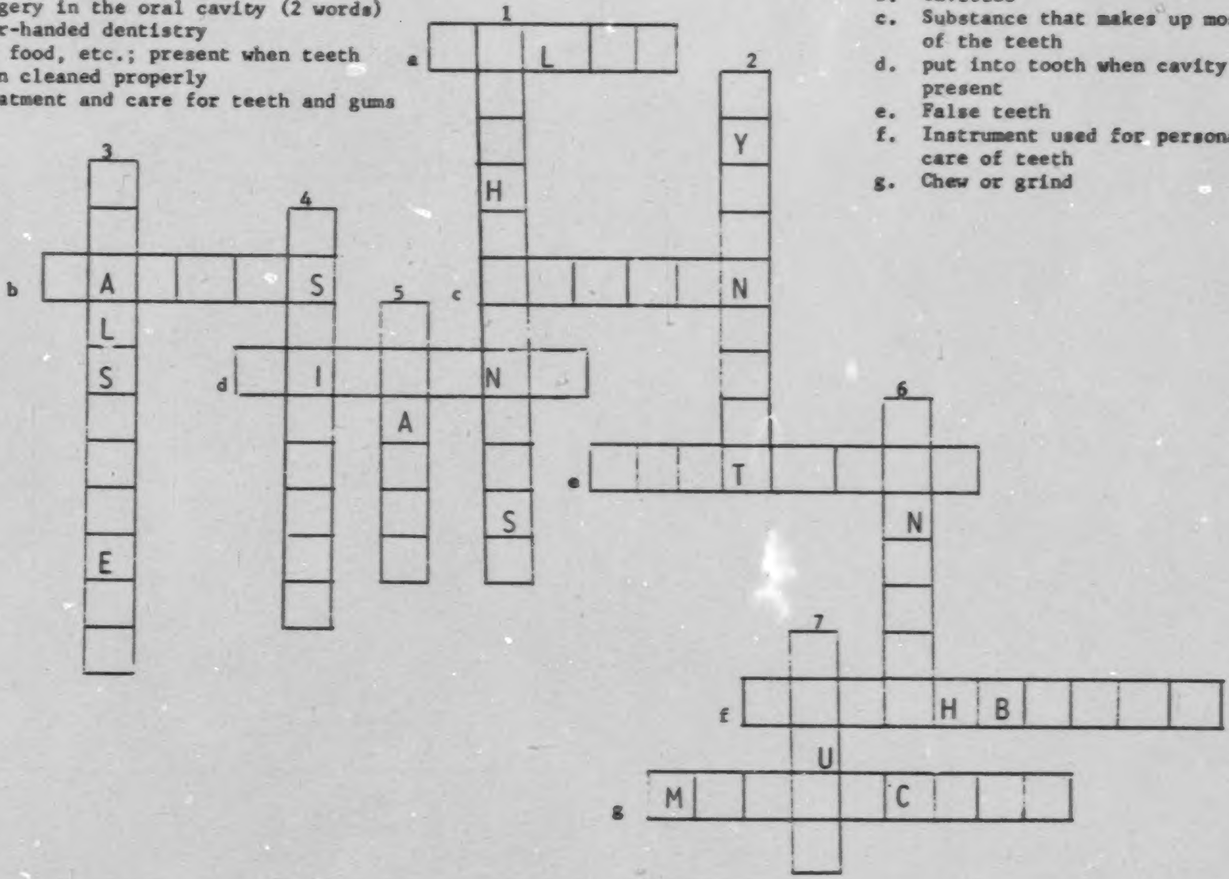
Complete the puzzle below by filling in the definitions to ACROSS and DOWN to evaluate your knowledge of dental science.

DOWN

1. Person who puts braces on teeth
2. Cleans teeth and instructs care of teeth
3. Performs surgery in the oral cavity (2 words)
4. Helps in four-handed dentistry
5. Particles of food, etc.; present when teeth have not been cleaned properly
6. Provides treatment and care for teeth and gums
7. Oral cavity

ACROSS

a. Type of tooth
b. Cavities
c. Substance that makes up most of the teeth
d. put into tooth when cavity is present
e. False teeth
f. Instrument used for personal care of teeth
g. Chew or grind



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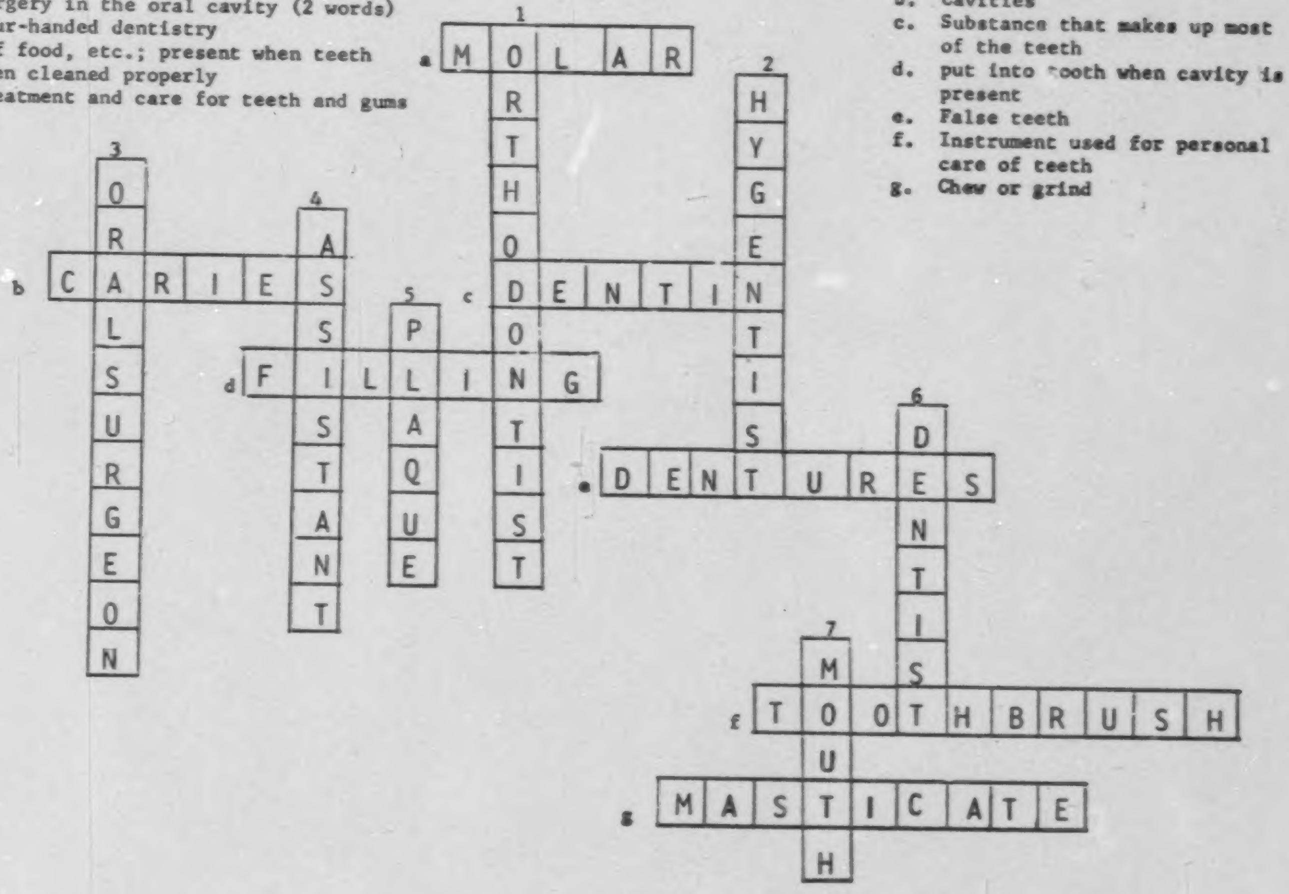
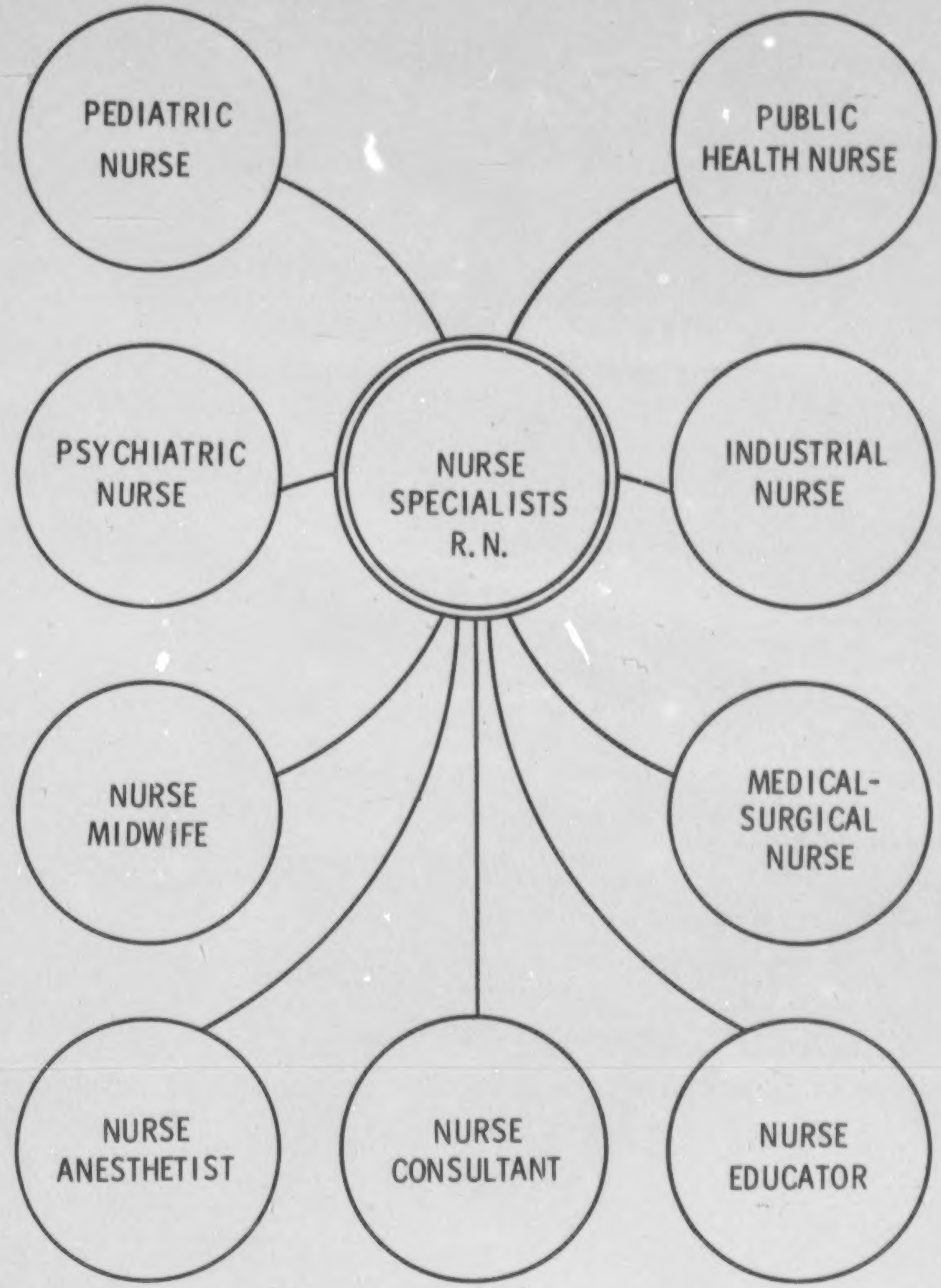
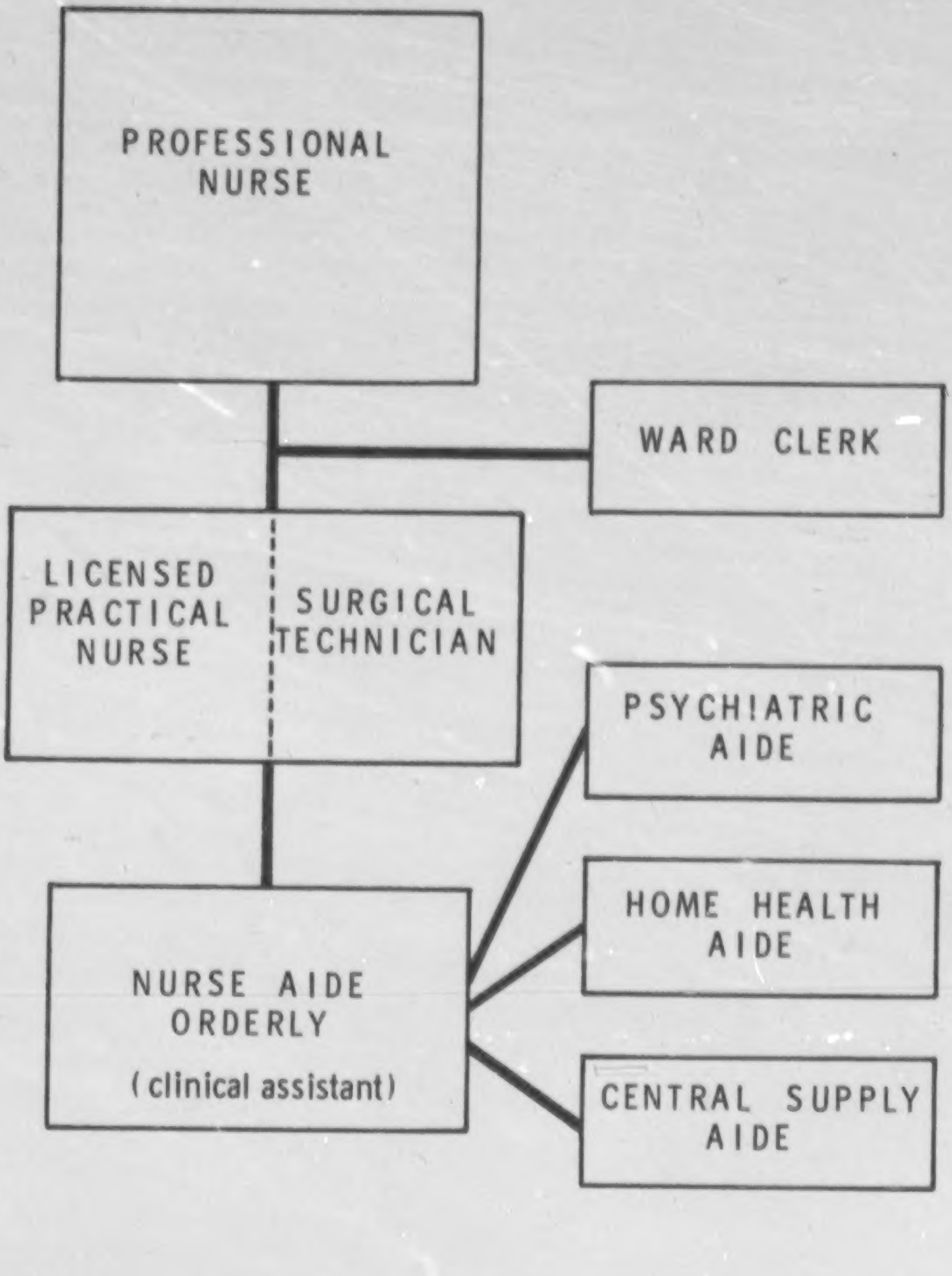




R GILMORE CURR DEVE CNTR UK 995-9

NURSING TEAM



PROFESSIONAL NURSE

WARD CLERK

LICENSED PRACTICAL NURSE

SURGICAL TECHNICIAN

PSYCHIATRIC AIDE

HOME HEALTH AIDE

NURSE AIDE ORDERLY

(clinical assistant)

CENTRAL SUPPLY AIDE

ORE CURR DEVE CNTR OK 957-2

Conversion Arithmetic Problems

The following are samples of arithmetic skills related to medicine, pharmacy, nursing and other clinical health workers.

Problems

1. The doctor has written an order for Mrs. King to have Sulfadiazine 15 grains three times a day. Since Sulfadiazine tablets come only in 0.5 Gm. tablets, how many tablets would you need to give to equal the 15 grains per each dose of Sulfadiazine.

2. The doctor wants Mrs. King to have the medicine for a five-day period. How many tablets of Sulfadiazine 0.5 Gms. would you need to order from the hospital pharmacy to last through the five-day period.

3. The doctor wrote instructions for Mrs. King to have 1000 cc of Glucose to be given into the veins. He wants the Glucose to drip continuously for several days. This means as soon as one liter of Glucose is empty, another liter must be hooked on to the tubing. How long will it take 1000 cc or a liter of Glucose to empty if the solution drips at the rate of 125 cc per hour?

4. The doctor has ordered Atropine grs. 1/300 to be given by hypodermic injection. All you have on hand is Atropine grs. 1/150. How will you be able to use this amount to give the prescribed dose 1/300 grs.?

5. One of the important factors in the restoration of health is the amount of fluids the patient is able to take. Fluid intake may be measured by using the following formula:

   120 cc = 1 teacup full

   240 cc = 1 glassfull

   30 cc = 1 fluid ounce or 2 tablespoons

   During one eight-hour period Mr. James drank 3 cups of coffee, 2 glasses of milk, 4 glasses of water and one glass of coke.

   a. How many centimeters (cc) of fluid did Mr. James take in?

   b. How many ounces did this amount equal?

   c. How many liters did this amount equal?

To the Teacher:

Answers to Mathematic Problems

1. 0.5 Gms = 7 1/2 grains. Two tablets per dose

2. 30 tablets for a five day period

3. 8 hours

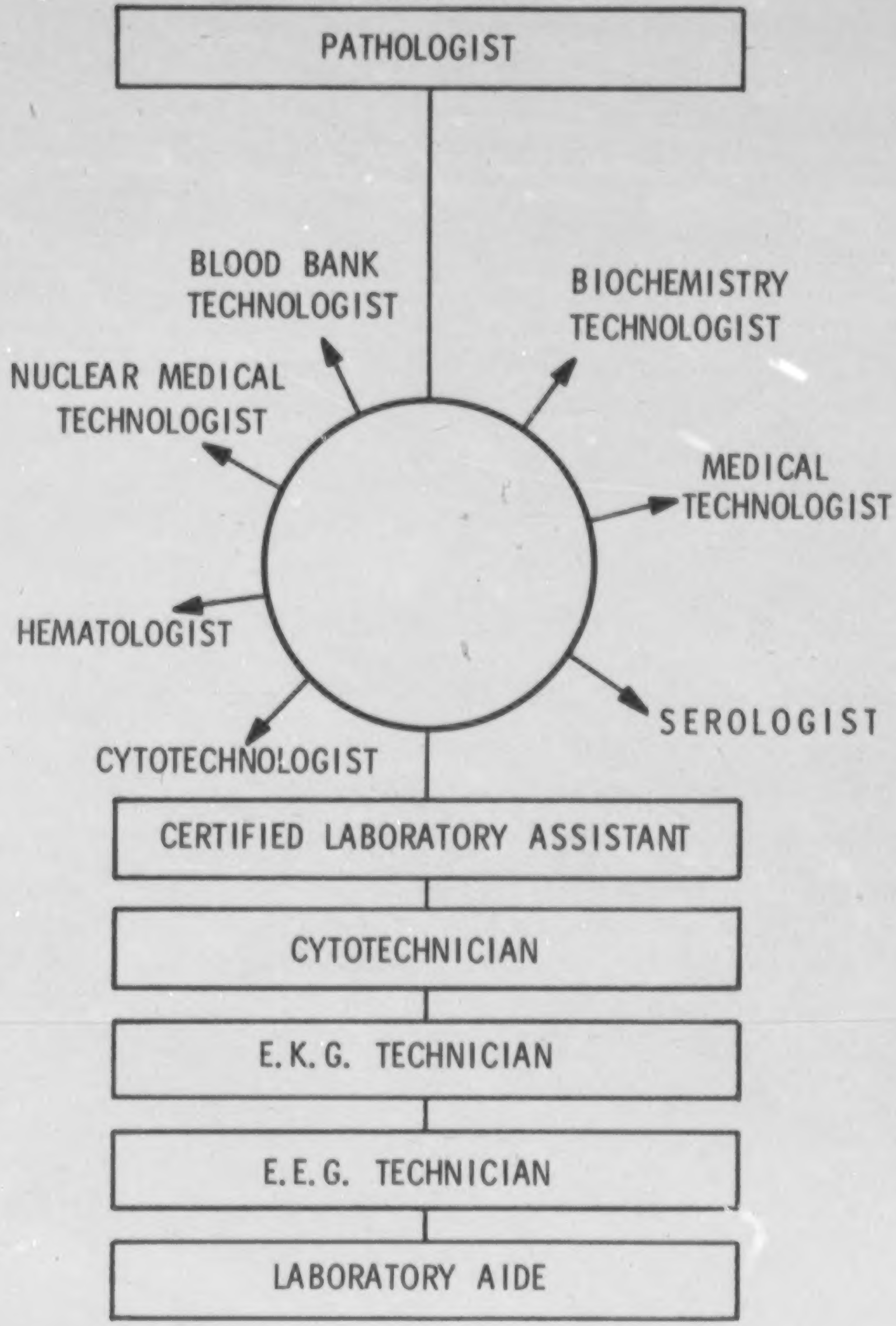
4. Reduce 150/300 = 1/2 the formula. Dissolve Atropine 1/150 in 15 minums of sterile water. Discard 7 1/2 minums and give the remaining 7 1/2 minums.

5. a. 2040 cc

   b. 66 ounces

   c. 2.04 liters

MEDICAL LABORATORY TEAM

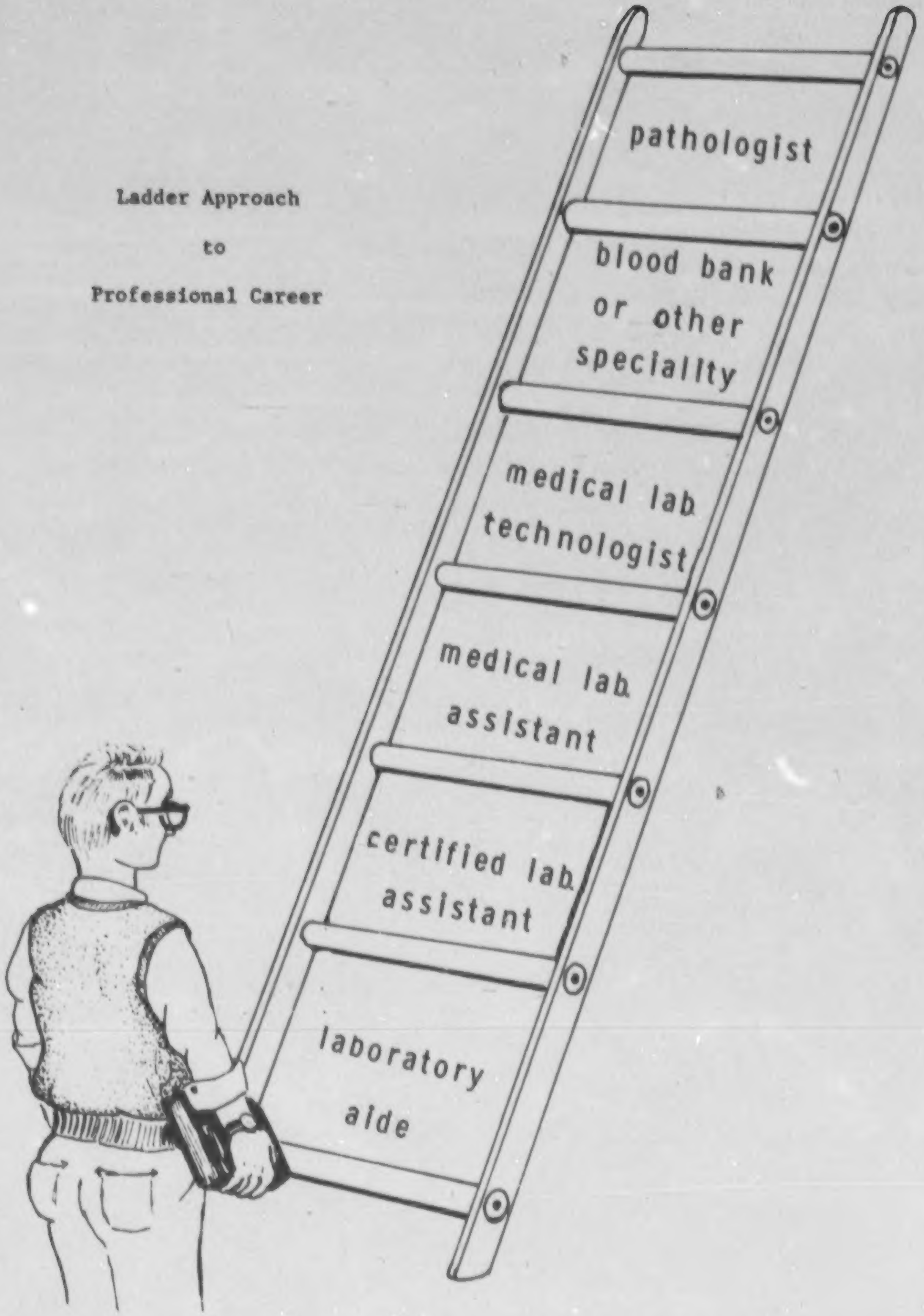


R. GILMORE, CURR DEVL, CNTR UW 957-3

Ladder Approach

to

Professional Career



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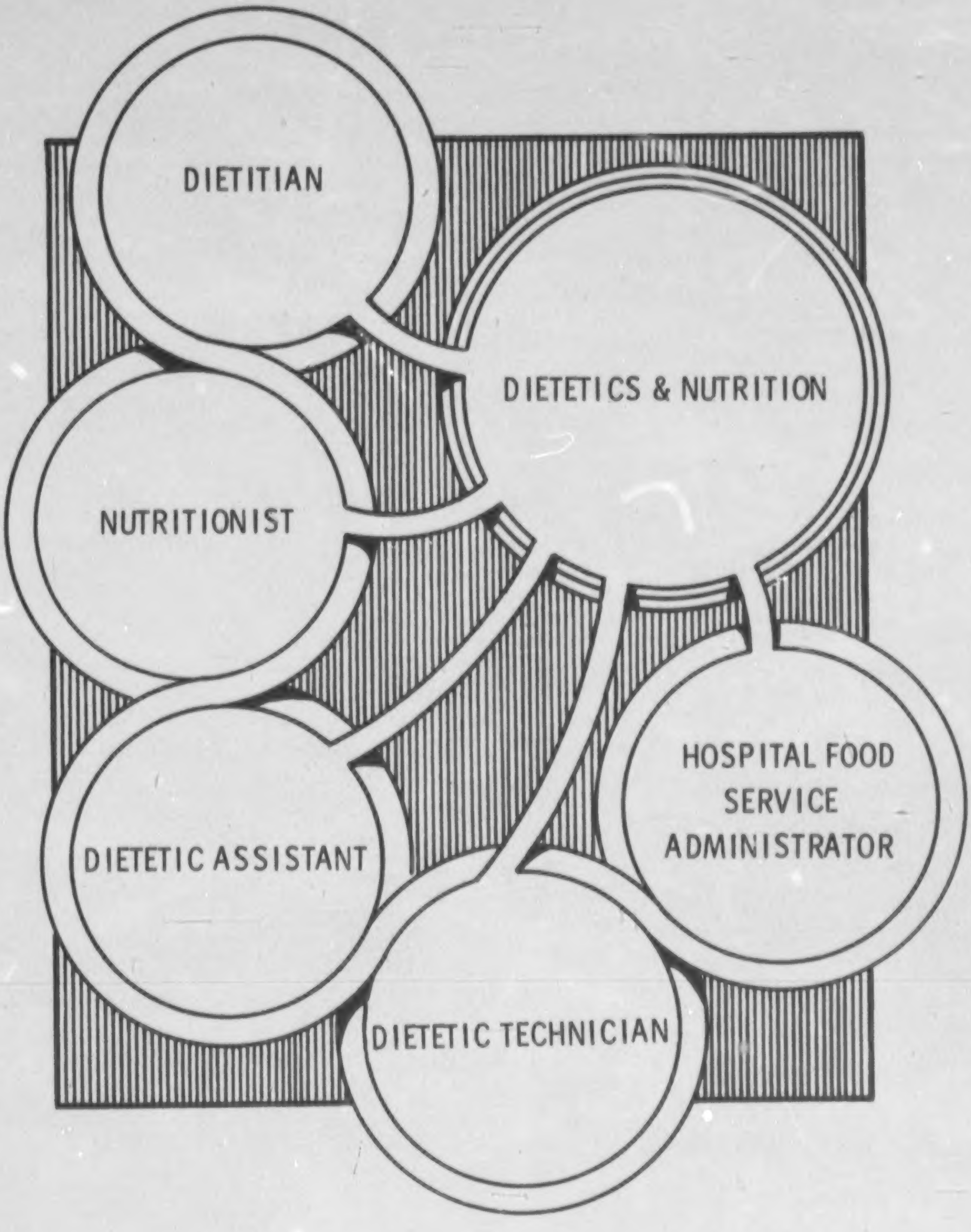


R GILMORE CURR DEVE CNTR UK 995-4

Typical Arithmetic Problems for Dietetics

The following are examples of arithmetic skills related to dietary services.

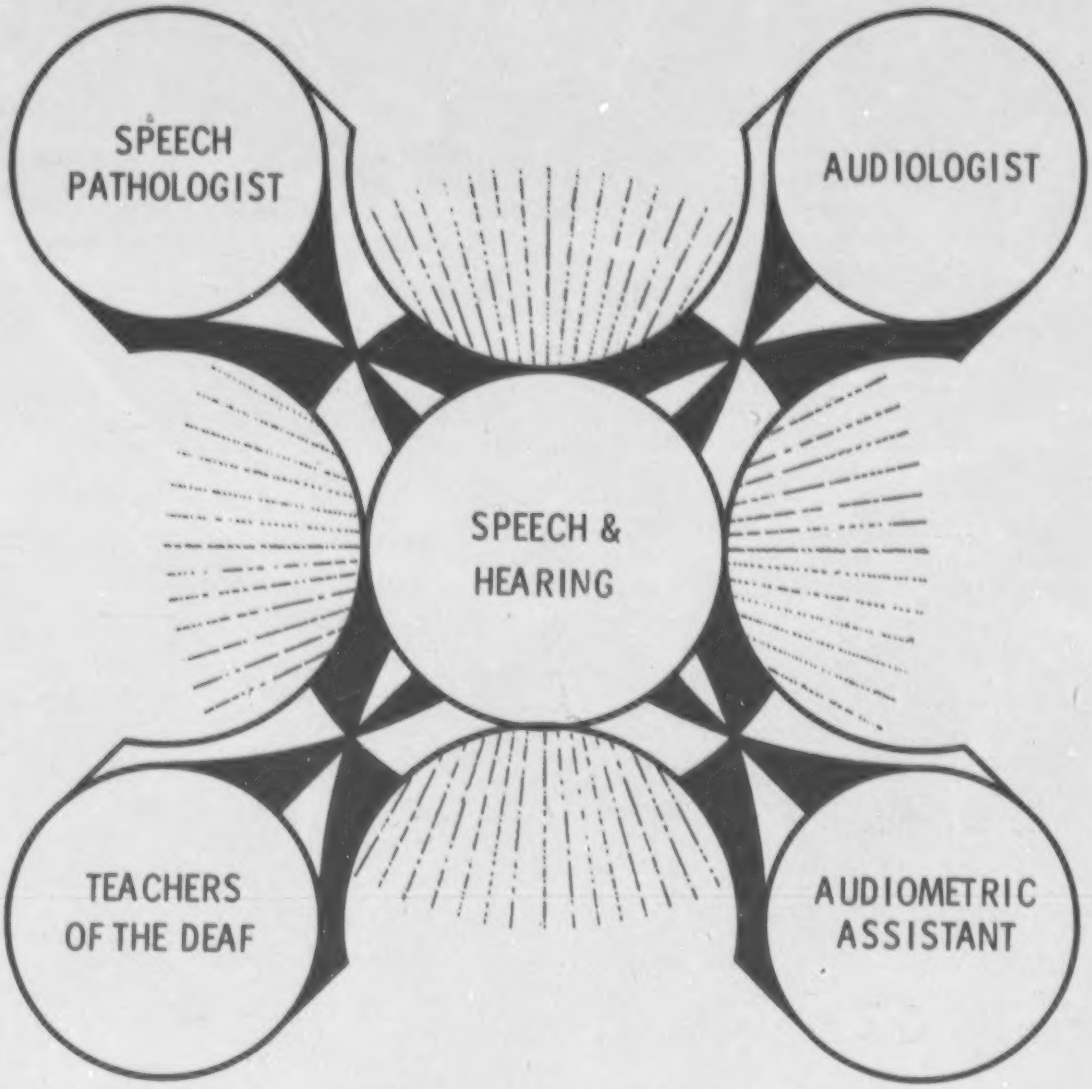
(1) Problem: A dietitian and/or a hospital food supervisor must be able to figure quantities of foods that need to be prepared and served to patients and employees. On Wednesday the local hospital had 150 patients and 200 employees for the noon meal. In addition, to salads, fruits, and potatoes, the dietitian planned for each person to be served 1/2 cup of green beans,and 1/4 pound of meat (without bone). How many cups of beans and pounds of meat should be prepared?

Answer: 175 cups of beans
87 1/2 pounds of meat without bone

(2) Problem: Jello is a part of a liquid diet. An average of 25 patients will receive one serving of jello three times a day. Figure how much jello you would need to prepare to serve 75 servings. One box serves four and requires two cups of water for mixing. When figuring the amount, determine:

a. How many boxes of jello you would need
b. How many cups of water you would need to use to make the right amount

Answer: 17 boxes
34 cups



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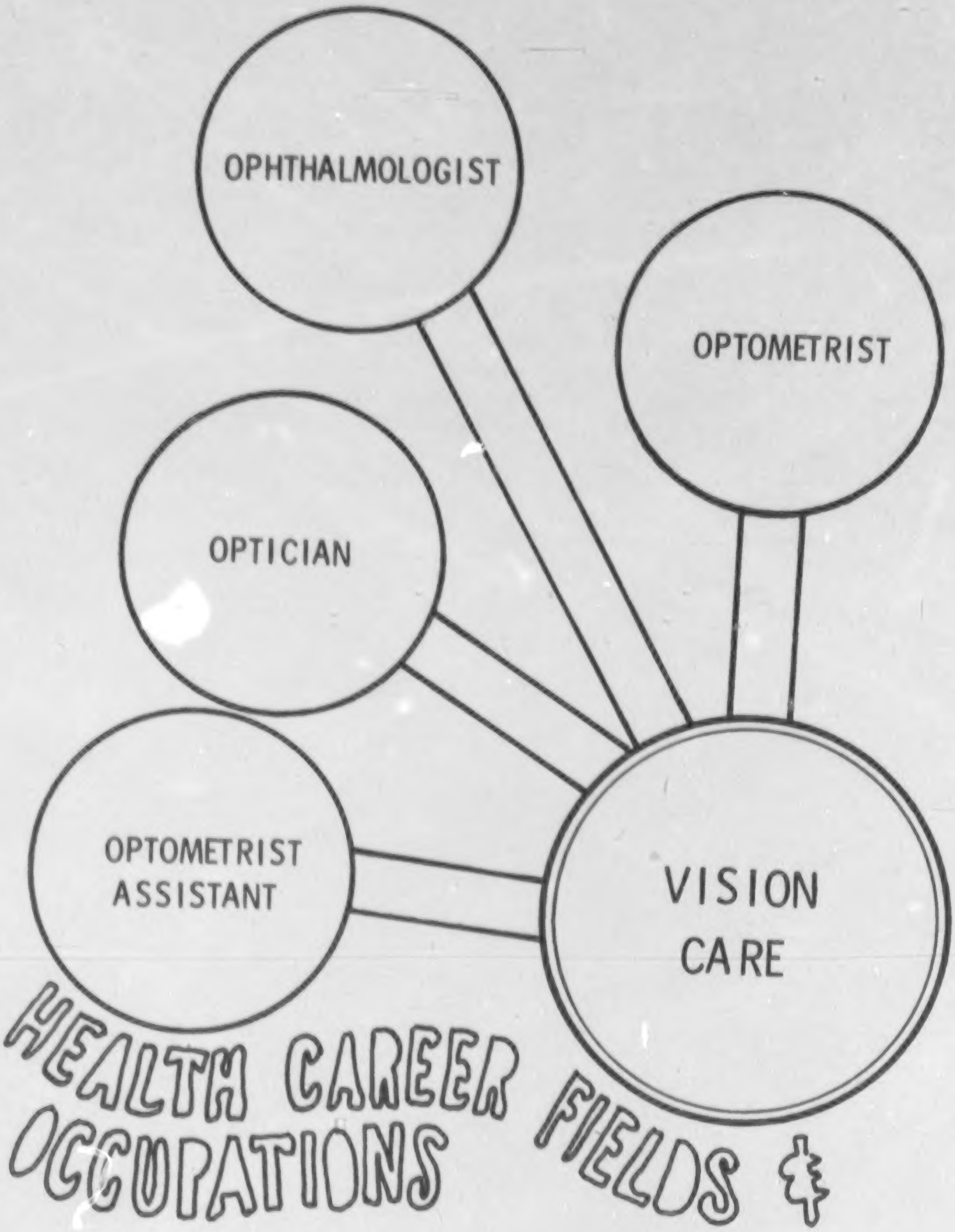


HEALTH CAREER FIELDS & OCCUPATIONS

Examples of New Health Occupations

Shortages	New Jobs
1. Physician	Physician's Assistant
2. Nurses	Ward Clerk Surgical Technician Home Health Aide Central Supply Aide
3. Medical Laboratory Technologist	Certified Laboratory Assistant
4. Registered Dietitian	Dietetic Technician Dietetic Assistant
5. Medical Records Librarian	Medical Records Technician Medical Records Transcriptionist
6. Physical Therapist	Physical Therapy Aide
7. Community Health Personnel	Community Health Aides or Technicians Medical Alert or Ambulance Technicians Food Technologist

UNIT FOUR

EXPLORATION OF HEALTH CAREERS IN EDUCATION AND RESEARCH

UNIT PURPOSE: To help the student identify how jobs in education and research serve people.

PERFORMANCE OBJECTIVES: The student will be able to

I. Analyze the roles, type of work and requirements for entry into jobs as a health educator for the public, health professions and for other health occupation workers.

II. Identify three types of health research and explain the need for them.

NOTE TO THE TEACHER:

Suggestions for integrating this unit in science and health classes have been included in supportive materials, p. 186.

I. The student will be able to analyze the roles, type of work and requirements for entry into jobs as a health educator for the public, for health professions, and for other health occupations workers.

A. Suggested Content

1. Types of services
    - a. Information and knowledge of health for general public
    - b. Education and training for health workers
    - c. Inservice and continuing education for health workers
2. Types of jobs
    - a. Health educator
    - b. Nursing and allied health occupations
    - c. Professor of medicine and other professional disciplines
    - d. Secondary school teacher of health occupations
3. Employment opportunities
    - a. Hospitals
    - b. Medical schools
    - c. Public schools
    - d. Universities
    - e. Community colleges
    - f. Prepatorial schools
    - g. Vocational-technical schools
4. Qualifications for entry
    - a. Education in specialities and professional education
    - b. Interest in people
    - c. Communication skills
    - d. Certification and-or licensures
5. Self-assessment
    - a. Attitudes

   b. Aptitudes and abilities

   c. Personality

B. Suggested Teaching-Learning Activities

1. Visit a vocational school or community college health occupations classroom to view and examine textbooks and the various uses in the daily classroom activities.

2. Invite a teacher of a health occupations program or student to talk with the class.

3. For awareness purposes, discuss briefly the license and certification requirements to practice many of the health occupations. Relate this information to study habits during high school and preparation for health occupations.

4. Have the students find on a Kentucky map the location of the various types of health occupation educational programs and tell the types of schools offering the programs.

5. Secure information about the educational resources in Kentucky that are available for education and preparation for jobs in health. To secure this information you might write to the following:

   a. Director of Health Occupations
   Bureau of Vocational Education
   Capitol Plaza
   Frankfort, Kentucky

   b. Executive Secretary
   Kentucky State Board for Nurse Registration
   and Nurse Education
   6100 Dutchmans Lane
   Louisville, Kentucky 40205

   c. Director of Health Careers
   Kentucky Hospital Association
   1415 St. Anthony's Place
   Louisville, Kentucky 40204

6. Invite a director of a hospital inservice program to talk with the students about on the job training for new employees and some of the other types of hospital based educational programs that are available to prepare for a job in the health industry.

   Stress: The greatest number of health workers are those that have education and training for technical and non-professional jobs in the health industry.

7. Duplicate and hand out "From School to Health Occupations," pp. 187-189. Students can use this information to discuss subjects they would need to study in order to enter an educational program for a health occupation job.

8. Encourage students who are interested in entering a health occupation to examine catalogues and other types of informational materials and prepare a budget for financing the education and preparation for the health occupation he is interested in.

9. Show film: "The Dentist in a Classroom."

10. Have students write their congressman about educational loans, scholarships, and stipends.

11. List types of health quackery in the United States and have students explain how scientific research has helped eradicate some of the practices of quakery. See "Health Quackery," p. 190.

12. Have the social science teacher have students develop a poster depicting the number of lives lost and cost of health quackery.

C. Suggested Evaluation

1. Have the students select an area of teaching in a health occupation. Ask them to develop a ten-minute plan to teach personal hygiene or posture and teach this information to the class. They might also construct a short test, give it to their classmates, grade it, and hand the test results back. Evaluate according to student's knowledge and class response of the role of a teacher.

D. Suggested Resources

1. Books

   a. Health Careers Guidebook

   b. Careers in Medical Science, pp. 114-115.

2. Pamphlets (Write the following associations for pamphlets.)

   a. Society of Public Health Education

   b. American Public Health Association

   c. American Social Health Association

   d. U. S. Department of Health, Education, and Welfare

3. Films

    a. "The Dentist in the Classroom"

4. Resource Persons

    a. Coordinator of vocational-technical practical nurse program

    b. Inservice director--hospital

5. Student Materials

    a. "From School to Health Occupations," pp. 187-189

    b. "Health Quackery," p. 190

II. The student will be able to identify three types of research in health and explain the need for them.

A. Suggested Content

1. Types of research activities (examples)
    a. Genetics
    b. Heart disease
    c. Cancer
    d. Immunology
    e. Pharmacology
    f. Nutrition
    g. Endocrinology
    h. Serology
2. Types of jobs
    a. Bio-chemist
    b. Bio-physicist
    c. Bio-medical engineer
    d. Geneticist
    e. Endocrinologist
    f. Serologist
    g. Pharmacist
    h. Microbiologist
3. Employment opportunities
    a. Government laboratories
    b. Private
    c. Industry
    d. Medical schools and centers
    e. Colleges and universities

4. Qualifications for entry
   - a. Education beyond 4 years of college
   - b. Interest in anatomy, physics, math and chemistry
   - c. Dedication to work
   - d. Analytical mind
   - e. Certification and/or licensure

5. Self-assessment
   - a. Attitudes
   - b. Aptitudes and abilities
   - c. Personality

B. Suggested Teaching-Learning Activities

1. Ask one or two students to interview a pathologist and give a report on this person's activities in research.

2. You might give the students an example of a common event in health today and have him trace back to determine the origin of this event and the work involved before it was ready for public use. Some examples might include use of vitamins, pacemaker, electronic microscope, etc.

3. Have students write to the National Institute for Health to secure information about the kinds of research being done in this government agency.

4. Make arrangements for field trips. For example:
   - a. Electronics plant
   - b. Pathology lab (Note: May be located in a local hospital)

5. Make arrangements with the hospital administrator in your community to see the following types of equipment:
   - a. Monitors (cardiac)
   - b. Bennett machine
   - c. Computer
   - d. Dataphone

6. Have the students write for information regarding the outcome of the research that is presently being undertaken by government agencies. For example, The Sealab Project, and Skylab Project.

7. After the students have received information regarding present research, have a poster contest in which the students make up posters on various research projects depicting how their outcome will influence health and some jobs that will likely become firmly established in the future because of this research.

8. You might have the students write a leading cardiologist to arrange for an appointment for a telephone interview to talk about new trends in treatment of the heart patient and how this will affect jobs in health. Include questions about ways to monitor a heart patient at home.

9. Have students work out a plan for a science research project and carry it out.

10. Show films. For example: "A Career in Bacteriology," "Human Cell and the Cytotechnologist," and "Counter Attack."

11. Utilize current news magazines for articles on current research in medicine and science and discuss with students.

12. Suggestions for integrating this information in other junior high courses:

    a. Ask the math teacher to demonstrate the use of statistics as these relate to prevention and control of disease.

    b. Ask the social studies teacher to compare surgical procedures during the Civil War with current surgery regarding organ transplants to illustrate results of research.

    c. Ask the language arts teacher to have students read references and give a report on the discovery of diabetes, discovery of insulin, and the discovery of penicillin.

    d. Ask the art teacher to have students analyze the print, "The Family Doctor," and compare changes in medicine. Then have students prepare their ideas of doctors today. Note: This print may be obtained from Wryths Pharmaceutical Company.

C. Suggested Evaluation

1. Search through magazines and compile a list of new trends in medical research. Hand out this list to students for them to identify specialist doing the research and how this contributes to health and life.

D. Suggested Resources

1. Books
    a. *Health Careers Guidebook*
    b. *Horizons Unlimited*
2. Pamphlets (Write the following associations for pamphlets)
    a. University of Louisville, School of Medicine
    b. University of Kentucky, School of Medicine
    c. American Pharmaceutical Association
    d. American Heart Association
3. Films
    a. "A Career in Bacteriology"
    b. "Human Cell and the Cytotechnologist"
    c. "Counter Attack"

SUPPORTIVE MATERIALS

FOR

UNIT FOUR

REFERENCE LIST FOR UNIT FOUR

Books

1. Careers in Medical Science, by Diane Seide, Thomas Nelson, Inc.
2. Health Careers Guidebook, Superintencent of Documents, United States Printing Office
3. Horizons Unlimited, American Medical Association

Pamphlets (Write the following associations for information.)

1. American Public Health Association
2. American Social Health Association
3. Society for Public Health Education
4. U.S. Department of Health, Education and Welfare, Public Health Service, Health Resource Administration

Films

1. "A Career in Bacteriology," Indiana University, Audio-Visual Center.
2. "A Dentist in the Classroom," Modern Talking Picture Services, #7103.
3. "Counter Attack," Modern Talking Picture Services, #2286.
4. "Human Cell and the Cytotechnologist," Careers in Medical Technology.

UNIT FOUR

Suggestions for Integration into Science Courses

The science teacher may wish to integrate this unit into the study of the scientific method, in discussion of developments in disease control, or in new scientific discovery; for example, study of Sky Lab in discussion of space science, Sea Lab in discussion of oceanography, medical technology in learning use of the microscope and doing laboratory experiments.

The education component of this unit can be used in students' study of the community, emphasizing the importance of health education for professional training and community information.

Suggestions for Integration into Health Courses

The health teacher may wish to emphasize this unit during the study of the community; for example, new developments in health and the importance of professional health education. Education and research occur in all areas of health, and people work in research in every system of the body. Integration of this unit also could occur when your class is discussing quackery and superstition.

From School to Health Occupations

HEALTH OCCUPATION	ON-THE-JOB-TRAINING	EMPLOYMENT OUTLOOK
Dietetic Clerk	6 weeks	good
Ward Clerk	1-2 months	good
Medical Assistant	1-2 months	good
Pharmacy Helper	1-2 months	depends on location
Physical Therapy Aide	6-9 weeks	good
Laboratory Aide	4 weeks	good
Thermograph Technician	undetermined	depends on location
Maintenance Clerk	6 weeks	fair
Admitting Clerk	6 weeks	fair
Nurse Aide	1-2 months	excellent
Electrocardiograph Technician	3-6 months	good

Since each health facility or agency determines the length of on-the-job training, estimated lengths of time are given.

Many vocational schools offer 3-6 months pretraining course for entry into the nonprofessional health occupation.

From School to Health Occupations

HEALTH OCCUPATION	EDUCATION	SCHOOL	REQUIREMENTS	EMPLOYMENT OUTLOOK
Practical Nurse	12-18 months	vocational school	license	excellent
Certified Laboratory Assistant	1 year	vocational school or hospital program	certification	excellent
Medical Records Technician	9-12 months	vocational school or hospital program		good
Surgical Technician	9-12 months	vocational school or hospital program	certification	good
Medical Engineering Technician	2 years	junior college		good
Environmental Technician	2 years	junior college		good
Respiratory Therapist	1 year	vocational school or hospital program	certification	good
Dental Assistant	1 year	vocational school	certification	good
Optician	undetermined	apprenticeship		good
Orthopist	2 years	junior college plus practical training	certification	good
Medical Photographer	special training in medical photography	vocational-technical or junior college		good
Radiation Monitor	special courses in physical and biological sciences and radiation	junior college		good

From School to Health Occupations

HEALTH OCCUPATION	EDUCATION	SCHOOL	REQUIREMENTS	EMPLOYMENT OUTLOOK
Physician	8 years or more	college plus medical school	license	excellent
Dentist	7 years or more	college plus dental school	license	excellent
Registered Nurse	2 years 3 years 4 years	junior college hospital program college program	license	excellent
Dietitian	4 years plus internship	college		excellent
Social Worker	4 years	college		excellent
Bacteriologist	4 years	college	certification	good
Environmental Engineer	4 years	college		good
Hospital Administrator	4 years	college and school of hospital administration		good
Food/Drug Inspector	4 years	college		fair
Optometrist	4 years	college of optometry	license	good

HEALTH QUACKERY

The following are a few examples of old wives' tales which have been scientifically proven false. Discuss some of these in your class and have students explain why they are false. If no reason can be found, have students find information to disprove the statement.

Bathing daily prevents illness.

Obesity is hereditary.

If you have pain in the lower back, you have kidney trouble.

Chew gum and you won't have any cavities.

Pregnant women should eat dirt because of the minerals it contains.

Fluoridation of water will cause disease.

Immunizations do not prevent diseases.

Diabetics can use honey but not sugar.

You get warts from handling frogs.

Don't buy brown eggs; they have less nutritive value than white ones.

Toast bread; it has less calories that way.

Use gelatin to strengthen your fingernails.

A fat baby is a healthy baby.

A vitamin a day prevents illness.

Babies are only born during a full moon.

Birthmarks are caused from frightening experiences during pregnancy.

Cooking in aluminum utensils causes cancer.

Eat raw eggs because they have more nutritive value than cooked ones.

Fresh orange juice is more nutritious than frozen orange juice.

UNIT FIVE

EXPLORATION OF HEALTH CAREERS

IN

COMMUNICATION

UNIT PURPOSE: To guide students in exploring jobs in communications and medical illustrations and how to continue to be informed about health careers. (Although jobs in health communication and medical illustrations are limited, these two areas are vitally important.)

PERFORMANCE OBJECTIVES: The student will be able to:

I. Describe three jobs in health communication and medical illustrations and explain their importance.

II. Explain at least two ways one can continue to learn information about health careers.

NOTE TO THE TEACHER:

"Suggestions for Integration Content into Junior High Science and Health Courses," can be found on p. 202 of Supportive Materials for Unit Five.

I. The student will be able to describe three jobs in health communication and medical illustrations and explain their importance.

A. Suggested Content

1. Types of services
    - a. Communication regarding: epidemics and new developments
    - b. Promotion and publicity (safety, prevention, etc.)
    - c. Illustrations for educational purposes
    - d. Models for educational purposes
    - e. Textbooks
2. Types of jobs
    - a. Science writer
    - b. Technical writer
    - c. Health information specialist
    - d. Medical illustrator
    - e. Medical model maker
    - f. Medical librarian
3. Employment opportunities
    - a. Government agencies
    - b. Private business & industry
    - c. Newspapers
    - d. Magazine publishers
    - e. Book publishers
    - f. University medical schools
4. Qualifications for entry
    - a. Interest in writing and art
    - b. Some mechanical ability
    - c. Basic art plus study in anatomy

        d. Journalistic skills
        e. Certification

    5. Self-assessment
        a. Attitudes
        b. Aptitudes and abilities
        c. Personality

B. Suggested Teaching-Learning Activities

1. Use "Health Occupations in Communication and Media," p. 203 to show students some of the health occupations in this area.

2. Assign the students to examine newspapers, magazines, books, T.V. ads, posters with health information or health problems. Have class compile a list of these during discussion.

3. Have a panel discussion on the importance of communication and distribution of health information in health, giving examples of recent health problems that have developed the past year. For example: venereal diseases, drug addiction, infectious or communicable diseases in man and animals.

4. Develop a bulletin board or poster depicting health information around the world.

5. Write to the medical librarian, care of the regional Medical Centers, University of Louisville, or University of Kentucky school library for information on how this work relates to communication and health information. If possible, arrange for a telephone interview to talk about the work of the medical librarian and centers for health information.

6. Suggestions for integrating this unit in other junior high courses.

    a. Ask the language arts teacher to invite the science writer for the local newspaper to explain how he collects material and prepares a concise report on this event.

    b. Ask the art teacher to:

        (1) Have students prepare and give a report about the contributions of Leonardo da Vinci and Michelangelo to medical illustrations.
        (2) Have students make an illustration of a human cell or anatomical parts.
        (3) Have students use clay and make a model of a human heart or other anatomical parts. See "Instructions for Making Anatomical Models," p. 204.

C. Suggested Evaluation

1. Have students prepare an advertising campaign for a new product including accurate description and its function. Campaign should include a layout for a poster or a magazine advertisement. Evaluate according to understanding of skills needed in health communication and illustration.

D. Suggested Resources

1. Books

   a. Health Careers Guidebook

   b. Opportunities in Technical Writing

   c. Job Description and Organizational Analysis for Hospitals and Related Health Services

2. Pamphlets (Write the following associations for information.)

   a. Association of Medical Illustrators

   b. Medical Library Association

   c. National Association of Science Writers

   d. Society of Technical Writers & Publishers

3. Resource Persons

   a. Librarian--medical school

   b. Science reporters--local newspaper

   c. Medical illustrator

4. Student Materials

   a. "Instructions for Making Clay Models," p. 204

5. Transparency Master

   a. "Health Occupations in Communications and Media," p. 203

II. The student will be able to explain at least two ways one can learn information about health careers.

A. Suggested Content

1. Type of volunteer activities

    a. Teenage volunteer

    b. Adult or auxiliary

    c. Explorer health clubs

B. Suggested Teaching-Learning Activities

1. Investigate the resources in your community regarding the availability of health career youth clubs. If one of these organizations has been established in your community, you might invite a member of the club to talk with the class about the purpose and advantages of being a member.

2. Have the students who are interested in continuing exploration of jobs in health write for information about opportunities and membership responsibilities.

3. Ask the students to find information regarding labor laws and age requirements for working as a volunteer, as well as hospital rules for age limits and other requirements. Discuss this information in class.

4. You might have the students write and arrange for a telephone conference with the director of the Explorer health occupations clubs to learn about membership requirements and what this club has to offer the young person interested in a health career.

    Note: The Explorer health occupations clubs are open to both boys and girls and do not require the young person to be a member of the Boy or Girl Scouts of America.

5. Invite a resource person such as a licensed practical nurse to talk with the students about ethical obligations of all persons, including volunteers, who work in health.

C. Suggested Evaluation

1. Have the students present a panel discussion on the roles and functions of volunteer groups; for example, hospital women's auxiliary, teen volunteers, and the Explorer group. Evaluate student's accuracy in discussing the services provided.

D. Suggested Resources

1. Pamphlets (Write to the following associations for information)

    a. Boy Scouts of America, Explorers Career Program
    b. American Academy for Family Physicians
    c. American Society of Director of Volunteer Services

2. Resource Persons
    a. Director Hospital Volunteer Services
    b. Scout Master Explorer Clubs

SUPPORTIVE MATERIALS

FOR

UNIT FIVE

REFERENCE LIST FOR UNIT FIVE

Books

1. *Health Careers Guidebook*, U.S. Department of Health, Education and Welfare
2. *Job Descriptions and Organizational Analysis for Hospitals and Related Health Services*, U.S. Department of Labor, Manpower Administration
3. *Opportunities in Technical Writing*, Jay R. Gould, Career World Book Ser.
4. *Vocational Guidance Manuals Series*, Career World Book Service

Pamphlets - Write the following associations for information.

1. American Academy of Family Practice
2. American Society of Directors of Volunteer Services
3. Association of Medical Illustrators
4. Boy Scouts of America, Exploring Division
5. Medical Library Association
6. National Association of Science Writers
7. Society of Technical Writers and Publishers, Inc.

UNIT FIVE

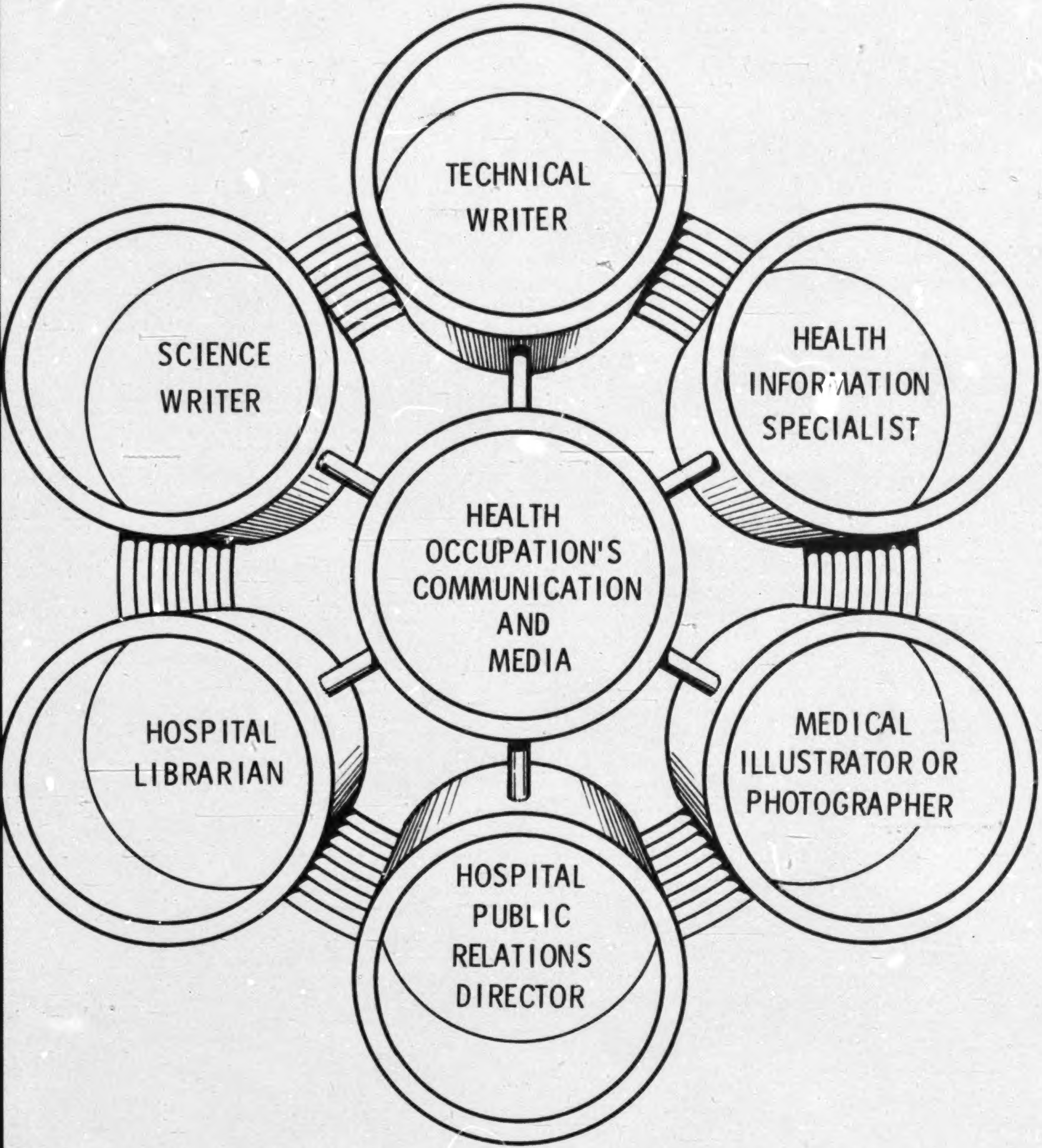
Suggestions for Integration into Science Courses

The science teacher may wish to use this unit during the discussion of scientific inquiry, emphasizing the need for accurate information which can be distributed and used by others. Voluntary agencies may be included relative to the contributions they have made to scientific discovery.

Suggestions for Integration into Health Courses

The health teacher may wish to integrate this unit when students are preparing bulletin boards and writing articles for school publications on health and safety. Emphsis should be placed on accuracy of presentation and conciseness of information. Also, this unit can be incorporated in accident prevention and information needed to prevent occurrence of accidents at home and around the world. Basically, this unit could be a part of any section where you use models, current publications or illustrations.

The section on voluntary agencies and how they contribute to research and the promotion of health should be included in the study of the community.


TECHNICAL WRITER
SCIENCE WRITER
HEALTH INFORMATION SPECIALIST
HEALTH OCCUPATION'S COMMUNICATION AND MEDIA
HOSPITAL LIBRARIAN
MEDICAL ILLUSTRATOR OR PHOTOGRAPHER
HOSPITAL PUBLIC RELATIONS DIRECTOR

GEMORE CURR DEVE CNTR UK 995-5

Instructions for Making Anatomic Models

Materials:

1. Modeling clay
2. Cake-coloring red and blue
3. Small tubing
4. Knife
5. Eye dropper

Instructions: Contact the director of nursing in your local hospital to secure plastic and polyethylene tubing for students to use as veins and arteries. This tubing is used to give intravenous feeding to patients and is discarded after it has been used. However, with proper cleaning, this disposable item can be used as a teaching tool. To clean:

1. Soak tubing for 30 minutes in a detergent solution to which 1/2 cup of clorex has been added.
2. Rinse thoroughly in cold water.
3. Hang tubing to dry.

Directions for making a heart model:

1. Provide students with illustrations including pictures of the exterior and interior parts of the heart.
2. Have students work a piece of modeling clay into the shape of the heart.
3. Check students accuracy in duplicating the shape of the heart.
4. After clay has been molded, have students cut the model down the center for the next step.
5. Scoop out heart chambers and design heart valve.
6. Using 4-5 inches of plastic tube to represent veins and arteries, place each piece in the proper position where the pulmonary vein and artery and the aorta is located.
7. Put the two half pieces together making sure the plastic tubes are well exposed at the top of the heart. (2-3 inches should be exposed). Smooth model to a smooth surface.
8. Use a piece of tubing to wrap around the heart to represent the coronary artery.
9. Use an eye dropper and inject red cake coloring into tubes representing the arteries, and blue cake coloring into tubes representing the veins.

UNIT SIX

EXPLORATION OF HEALTH CAREERS

IN

PRODUCTION AND DISTRIBUTION PRODUCTION

UNIT PURPOSE: To provide students with a basic knowledge of the manufacturing and distribution of medical supplies and equipment and of job opportunities in the area

PERFORMANCE OBJECTIVES: The student will be able to:

I. Explain the relationship of production and distribution of health products to service areas in health.

II. Name and describe two or more health occupations that are commonly found in the medical-industrial complex within the health industry.

NOTE TO THE TEACHER:

"Suggestions for Integration Content into Junior High Science and Health Courses," can be found on p. 216 of Supportive Materials for Unit Six.

I. The student will be able to explain the relationship of production and distribution of health products to service areas of health.

A. Suggested Content

1. Types of production and distribution activities
    - a. Marketing of medical and drug supplies
    - b. Research activities
    - c. Educational activities
    - d. Distribution of information (films, pamphlets, books, etc.)
2. Types of organizations
    - a. Manufacturers of hospital equipment and equipment for individual health needs
    - b. Manufacturers of medical supplies, dressings, bandages, etc.
    - c. Manufacturers of drugs and life supporting fluids and other substances
3. Relationship to service areas
    - a. Acts as a link between research and application of products
    - b. Provides information and demonstration in use of products
    - c. Contributes to efficiency of health services
    - d. Contributes to the development of new services

B. Suggested Teaching-Learning Activities

1. Ask the Red Cross to work with you in developing a project to make bandages and emergency kits. Use this project to demonstrate the need for manufacturing and distribution of health products.
2. Many of the new services introduced in health during the past 30 years have resulted from manufacturers introducing new products. See p. 38 for "Health Technology and Its Results" for review of some ways manufacturers have been able to motivate the integration of new services in health. For example:
    - a. The Bennett Machine-respiratory therapy services
    - b. Cardiac monitor-cardiac care units & services

   c. Production of drugs-food and drug inspection services

   d. Nuclear substances-radioisotope therapy and diagnostic services

3. Have students interview various health workers to find out how new drugs, supplies and equipment increases the health worker's efficiency. For example, the use of disposable items such as syringes, gloves, and linens.

4. Show a film. Foı example:

   a. "Man in the Doorway"

   b. "Molecules of Life"

   c. "To Save Your Life"

   d. "But More Than This"

   e. "Bridge to Tomorrow"

5. Suggestions for integrating this content into other junior high school courses:

   a. Ask the art teacher to have students develop an attractive display of medical supplies to present a demonstration. Note: The art teacher can secure the assistance of sales representatives to assist in this project.

   b. Ask the social studies teacher to have students study reasons for great gaps between the discovery of new things in health and the availability of the results of research; for example, people's attitudes toward health and superstitions surrounding health and illness. Have students study the effects of the separation of pharmacy from medicine in 1821 and the growth of the drug industry as a result of this separation.

      Note: Up until the 19th century the physician compounded and dispensed his own drugs. Many physicians maintained their own apothecary shop. However, in 1821 persons primarily interested in compounding drugs were successful in establishing a school for pharmacy. As a result pharmacy became a health profession, and the compounding of drugs was concentrated in the production of pharmaceutical products.

   c. Ask the math teacher to have students work with proportions relating this to the preparation of solutions. For example the preparation of a 1:4000 solution from a concentrated amount. Metric system bulletin board suggestion, see p. 217 for illustration, "Know Your Metric Equivalents."

d. Ask the language arts teacher to use, "Origin of Medical Terms," p. 218 and show students how many of our medical terms have been coined.

C. Suggested Evaluation

1. Have students trace the production of a health product from the time it is started until it reaches the consumer. Evaluate students' ability to understand the development, testing, and personnel responsible for it.

2. Prepare a supply list for a home first aid fit. Once the list is compiled have the students survey the community for the products needed and the prices of the different articles to be used in the kit.

D. Suggested Resources

1. Books

   a. Supply House Catalogues (obtained from pharmacy, or hospital administration)

   b. Health Career Guidebook p. 34-40

   c. Opportunities in the Biological Sciences, entire text

2. Films

   a. "Man In the Doorway"

   b. "Molecules of Life"

   c. "To Save Your Life"

   d. "But More Than This"

   e. "Bridge to Tomorrow"

3. Resource Persons

   a. Representative of a pharmaceutical company

   b. Representative of a medical supply company

4. Student Materials

   a. "Know Your Metric Equivalents," p. 217

   b. "Origin of Medical Terms," p. 218

II. The student will be able to name and describe two or more health occupations that are commonly found in the medical-industrial complex within the health industry.

A. Suggested Content

1. Types of services offered by these workers
    - a. Research activities
    - b. Consultative services
    - c. Care of experimental animals
    - d. Marketing of products
    - e. Demonstrations of products
    - f. Inservice programs for health workers
2. Types of jobs
    - a. Research specialist including pharmacist
    - b. Veterinarian and veterinarian aide
    - c. Medical technologists
    - d. Bio-medical engineer
    - e. Salesman
3. Employment opportunities
    - a. Manufacturers of medical equipment
    - b. Pharmaceutical companies
    - c. Medical supply outlets
    - d. Drug stores & private owned business
4. Qualifications for entry
    - a. Basic health occupations background
    - b. Many interests including those in science, social needs, and health protection
    - c. Good health
    - d. Persuasive skills
    - e. Likes detailed work

5. Self-assessment

   a. Attitude

   b. Aptitudes and abilities

   c. Personality

B. Suggested Teaching-Learning Activities

1. Invite a salesman of a drug or medical supply company to talk with the students about how he helps administrative health workers plan for furnishing and equipping a new hospital or a new unit that is being developed.

   Note to the teacher: Contact your local hospital administrator for names of persons representing various medical supply companies.

2. Invite a drug salesman to set up a display of medical products and demonstrate how he helps health workers to know and understand the use of these products.

3. Have students write a pharmaceutical company to find out how this company uses animals as a means of producing drugs which we use to prevent diseases. After students have this information, ask them to discuss the role of the veterinarian and veterinarian aide in the pharmaceutical business.

4. If you have a medical supply outlet in your community, assign a committee to visit the outlet, and have the salesman help them to compile an order of supplies. Ask the students to report their findings to the class and demonstrate examples of order forms and shipping inventory forms used for this purpose.

5. Show transparency, "Know Your Metric Equivalents," p. 217 to point out some changes in the English and Metric systems.

6. Suggestions for integrating this content in other junior high courses:

   a. Ask the social studies teacher to have students research how Jenner discovered the vaccine for smallpox and relate this information to jobs for veterinarians in manufacturing and production of health products.

   b. Ask the language arts teacher to have students debate the good and bad aspects of advertising drugs and other medical products.

   or

   c. Have students prepare a persuasive sales talk to sell a new product to a doctor, dentist, or hospital administrator.

C. Suggested Evaluation

1. Have students examine the school's first aid or nurses station and prepare an order for needed supplies.

2. Prepare a supply list for a home first aid kit. Once the list is completed, have them survey the community for products needed, where they can be obtained, cost, and type of people responsible for distribution.

D. Suggested Resources

1. Books
    a. Health Careers Guidebook
    b. Medical Supply Catalogues
2. Pamphlets (Write to the following associations for information.)
    a. Contact local medical supply companies for information on personnel
3. Resource Persons
    a. Representative of a medical supply company
    b. School nurse
    c. Red Cross worker
    d. Purchasing agent, local hospital
4. Transparency Master
    a. "Know Your Metric Equivalents," p. 217

SUPPORTIVE MATERIALS
FOR
UNIT SIX

REFERENCE LIST FOR UNIT SIX

Books

1. Health Career Guidebook, U.S. Government Printing Office
2. Opportunities in the Biological Sciences, Charles A. Winter, Ph.D., Career World Book Services
3. The Vocational Manual Series, Career World Book Service

Films and Filmstrips

1. "Bridge to Tomorrow," Modern Talking Picture Service (#2251)
2. "But More Than This," Modern Talking Picture Service (#3580)
3. "Man In the Doorway," color and sound, 16mm. Ames Company, Division of Miles Laboratories, Inc., free loan
4. "Molecules of Life," Abbott, color, 15 minutes. Ames Company, Division of Miles Laboratories, Inc., free loan
5. "To Save Your Life," Lilly, color, 8 1/2 minutes. Ames Company, Division of Miles Laboratories, Inc., free loan

UNIT SIX

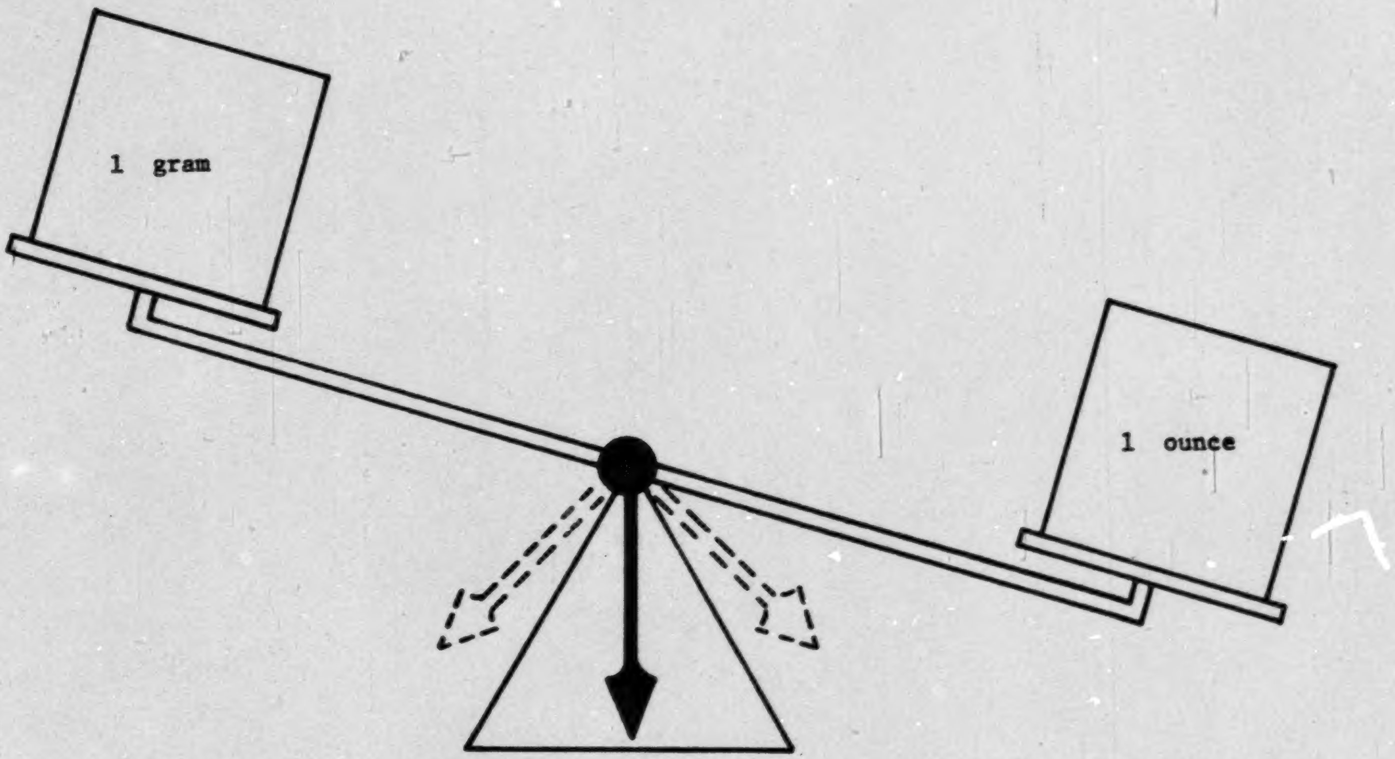
Suggestions for Integration into Science and Health Courses

Production and distribution of supplies and materials can be used in most units relating them to types of equipment you use in the classroom. Also integration can occur when teaching body systems (using models, etc.), of the economic system (cost of health care).

KNOW YOUR METRIC EQUIVALENTS

METRIC SYSTEM

ENGLISH SYSTEM



BALANCED ???

.STATZER.CURR.DEVE CNTR UK. 1228

Origin of Medical Terms

Language Arts Activities for students: The following are illustrations of ways scientists coin medical terms. The language arts teacher may incorporate these words in lessons dealing with prefixes, suffixes and root words to emphasize the importance of knowing and understanding the use of word elements.

1. anti (against) bio (life) antibiotic--against living germs
2. micro (extremely small) scope (to examine) microscope--instrument used to see very small things
3. electric (impulse) en (inside) cephalic (brain) graph (tracing) electroencephalograph--equipment used to trace the electrical impulse in the brain
4. hemi (half) plegia (paralyzed) hemiplegia--paralyzed on one side of the body
5. dys (bad) trophy (nourish) dystrophy--defective nutrition
6. dens (tooth) algia (ache or pain) dentalgia--toothache
7. staphylo (grapes) coccus (berry) staphylococcus--microorganisms resembling a bunch of grapes
8. sub (under) glossa (tongue) subglossa--under tongue
9. epi (above) demios (people) epidemic--an infectious disease attacking many people in the same area
10. cholo (black) litho (stone) cholelith--gallstone
11. hypo (under) dermic (skin) hypodermic--medicine given under the skin
12. chemo (chemical) therapy (treatment) chemotherapy--treatment by chemical drugs that affect microorganisms without harming the person
13. stetho (chest) scope (examine) stethoscope--an instrument used to examine the chest
14. sphygomo (pulse) monos (thin) meter (measure) sphygmomanometer--an instrument used to measure arterial pressure or blood pressure
15. ortho (straight) static (standing) orthostatic--straight position or good posture

APPENDIX

Suggested Mini-Course No. I

This suggestion for a mini-course is only one of many approaches for health occupations exploration and is intended to give students a concentrated look at the careers in the health service industry, utilizing the materials in this guide. Throughout this course, students should be looking at the careers in health relative to their own aptitudes and personal interest in one of the careers.

This course centers around planning and scale modular construction of health facilities for a community of 35,000 people. Your class becomes health planners and their first assignment as planners is the health facilities for this community. Basically, they have very little information on the health service industry and must find out what kinds of facilities, staffing, and equipment will be needed.

WEEK I During this week, utilizing Unit I, students will be introduced to the broad spectrum of health services. They should begin to prepare a list of some of the needed facilities to provide health care and a broad concept of employees that will be needed to staff these facilities. In addition, they may begin to collect materials which can be used in construction of their models.

NOTE: These materials should be inexpensive--utilize shoe boxes, cardboard boxes, and any materials which would simulate equipment. In addition, they may want to begin sketching individuals who will work in the health industry and preparing mock-ups of these people.

WEEKS 2 AND 3 Complete Unit I and begin Unit II on the community and mental health components. During this period of time, students should complete projections for mental health and community health facilities for their model community. In order to begin construction, they must have an opportunity to talk with employees and observe them in their work environment. Facilities which should be included are local health department, comprehensive care centers, landfills, sewage disposal plants, and water purification plants.

It is suggested that the facilities be set up with movable rooms so that students may adjust them as they proceed through the course. Accompanying each facility should be a list of employees, their titles and qualifications.

WEEKS 4 AND 5 Unit III should be used to direct students into direct care facilities, such as nursing homes, hospitals, physician's offices, dental offices, and veterinarian clinics. This unit covers many of the health occupations, and each of the facilities has several units which must be developed. The student should be exposed to the many teams which provide services to the patient. Basically, the structure will show these teams as entities within themselves but with intertwining services. Mental and community health facilities should be completed and beginning construction of direct service facilities should begin at this time. All employees should be designated in each facility.

WEEK 6 Complete models on all areas and study Units IV, V, and VI. Additional facilities will be pharmacies and product distribution facilities (plants, drug companies, etc.) Include during this week a student's look at himself and a health career.

Nine-Week Class

WEEKS 6, 7, AND 8 Complete models on preceding units with additional facilities for education and research and product distribution developed during this time--Units IV,V, and VI.

WEEK 9 Student should concentrate his effort on looking at himself relative to a health career; his attitude, abilities, and the options open to him.

Experiences that should be a part of this mini-course:

1. Group guidance
2. Emphasis on each individual student and his interest in a health career
3. Shadowing of workers on the job--each student picking his own interest area
4. Experiences with skills of health workers and equipment necessary
5. Selection of one area which the student might like to plan and construct
6. Opportunities available for further exploration of a health career

(4)

7. Opportunity to plan with the counselor additional educational experiences if student tentatively decides a health career is for him

Suggested Mini-Course, No. 2

This 6-9 week mini-course is a self-contained unit designed to be integrated into existing junior high courses, preferably health education, science, or social studies. Teachers can directly implement this unit into their existing courses or integrate it into the various subject areas being taught.

Each week's lesson focuses on one particular segment of the work and job opportunities in health; however, the manner in which the material is presented will be determined by the teacher and the students' need for greater understanding of the topic being presented. Teachers using this unit are reminded that suggested activities and resource materials are available in each unit of the guide. Additional free materials may be obtained by writing the organizations listed at the end of each unit and in the appendix.

Because eighty-five percent of the health occupations are those at the technical assistant or aide level, teachers have excellent opportunities to gear the disadvantaged and handicapped students' interest toward those nonprofessional occupations.

Suggested Health Occupations Outline

By Week:

First Week: Overview of the health industry: Includes how the health industry is essential to our survival, how it contributes toward meeting our basic needs, and how the various health agencies are linked together. Daily lesson plans should include relationships of the health industry to a standard and quality of living with flashbacks of historical events and social problems as these have related to the development and growth of our present health system.

Second and Third Weeks: Careers in health protection: This includes environmental protection services and direct personal services provided by public health agencies. Utilize the second week for teaching environmental careers as these relate to protecting our health. During the third week, plan daily lessons with emphasis on social and mental health problems and the kinds of health workers needed to help people meet daily needs related to nutrition, maternal and child health, social living and good mental hygiene.

Fourth and Fifth Weeks: Careers to support, maintain, and restore health: Plan daily lessons with each day's lesson centered on a specific group of health careers, how the professional group expanded, and how the various groups function to provide for people's health needs. Plan one or two sessions to teach need for health workers in rural and inner-city areas.

Sixth Week: Education and research: Provides opportunities to include misconceptions about diseases and health quackery. Daily lesson plans might focus on needs for educating the health workers and the public to prevent loss of life due to health quackery and to show how jobs in research have proven superstitions to be wrong. Include in daily lesson plans the health industry's responsibility to prevent unqualified health workers from practicing medicine.

Seventh Week: Communication and information: Brings into focus the importance of communication to keep people well as well as medical illustrations. Plan one or two lessons for students to learn how they can continue exploring health careers.

Eighth Week: Production and distribution: Includes technology and types of jobs necessary to get health products to the people. Daily lesson plans might include sessions on why we need health products, types of jobs, historical flashbacks, and advertizing (good and bad).

Ninth Week: Review sessions

Suggested Mini-Course No. II--By Outline

I. Overview of the health industry
    A. Purpose and functions
    B. Structure of the health team
    C. Health facilities and agencies
II. Careers in health protection
    A. Environmental health
        1. Community
        2. Occupational health
    B. Direct public health services
    C. Mental health and mental retardation
    D. Communicable disease control
    E. Health statistics
III. Careers to support, maintain and restore health
    A. Administration, maintenance, and housekeeping
    B. Medicine and pharmacy
    C. Dentistry
    D. Nursing
    E. Medical laboratory and radiology
    F. Dietary services
    G. Rehabilitation
    H. New and emerging occupations
IV. Careers in education and research
    A. Health educators in schools and general public
    B. Health educators for health occupations
    C. Careers in research

V. Communication and information

   A. Services and occupations

   B. Youth health career exploration clubs

VI. Production and distribution

   A. Relationship to service areas

   B. Careers in production and distribution

Interest and Health Careers

Before very long, you and your friends will be talking about the kinds of work you may want to do when you finish school. To see if you can spot the relationship between interests and your life's work, what would you say to these friends about the kind of health career they might choose?

1. Sam is one of the stars on the school basketball team. Even though he likes to play basketball, Sam spends all of his spare time building toy cars. He carefully designs and works out every detail of each part and puts them through a series of tests. Put a check beside the kind of a career you would suggest to Sam, should he ask you to help him make a choice of a health career.

    a. Recreational therapist
    b. Biomedical engineer
    c. Heart-lung technician
    d. Hospital maintenance engineer

2. Max is a paper carrier. In the six months that he has been carrying the evening paper he has managed to build up a far greater number of customers than any of his fellow newspaper carriers. In fact, Max is scheduled to receive an award when the newspaper holds its spring awards dinner. Besides being a good salesman, Max likes to make many of his decisions basing them on mathematical principles. The thing he seems to enjoy most is to be able to explain things by comparing figures. He is interested in entering the health field, but is not sure he will fit into a health service. What kind of a health career do you think Max would enjoy and be successful in?

    a. Physician
    b. Biomathematician
    c. Medical technician
    d. Pharmacist

3. Janice is active in the Future Homemakers' Club. She designs and makes her own clothes and has won several prizes at the county fair. Jane especially likes to care for children and often volunteers her time to work at the day care center and care for the children. She seems to find it a challenge to be able to make a child feel better when he feels bad or is accidently hurt while playing. What kind of a health career do you think Jane would enjoy?

    a. Pediatric nurse
    b. Medical illustrator
    c. Homemaker rehabilitation consultant
    d. Director of volunteer services

4. Mary enjoys cooking. She often plans and prepares the family's meal, being very careful to see that each meal is well balanced. Although Mary likes to cook, her main interest is in helping people plan their diet. In fact, Mary has been assisting a friend to plan her diabetic diet with a great deal of success in helping her friend select the right foods. Mary's parents want her to become a teacher. Although Mary thinks that she will probably follow their wishes, she talks about entering a health career. If Mary asks you for advice, what health occupation would you recommend?

   a. Food technologist
   b. Food inspector
   c. Therapeutic dietitian
   d. Dental hygienist

5. James is a member of the Science Club. Even though he likes science, James seems more concerned with the social aspects of helping people. He often organizes groups to help a needy family. James is trying to decide what kind of a health career he could enter that will give him an opportunity to help people meet their social needs. In what kind of a health career do you think James could achieve his desire?

   a. Medical social worker
   b. Physician
   c. Nurse consultant
   d. Psychologist

For the teacher

Answers: Interest and Health Careers

Page

1. (b) medical engineer
2. (b) biomathematician
3. (a) pediatric nurse
4. (c) therapeutic dietitian
5. (a) medical social workers

Page

1. (a) like people
2. (b) take the National League for Nursing Appitude Test
3. (b) be in the upper 10% of your class
4. (a) attend a vocational school's surgical technician program
5. (b) business and office practice
6. (a) like outdoor work
7. (b) possess leadership qualities
8. (a) have flair for household management
9. (a) be able to interview people
10. (a) like to help people

Self Evaluation

If you are interested in entering a health occupation career, you need to begin planning towards this goal during your junior high school days. After you have explored the jobs you are interested in, make a careful inventory of yourself to see how you can match up with the requirements for a job in health.

1. Personal qualities for entering a health occupation:
    - a. Do I like to work with people? _____
    - b. Can I adjust to situations? _____
    - c. Can I keep things I know about people a conficential matter? _____
    - d. Do I accept responsibility for my own acts? _____
    - e. Do I feel responsible for meeting my obligations? _____
      For being loyal to my employer? _____ to my co-workers? _____
    - f. Can I accept disappointments? _____
    - g. Do I set my own values? _____ my own goals? _____
2. Personal health:
    - a. Am I physically strong enough to do the job? _____
    - b. Do I have good eyesight? _____ hearing? _____
    - c. Am I overweight? _____ underweight? _____
    - d. Do I follow direction for good health practices? _____
    - e. Do I have a health problem that might interfere with my work? _____
      If so, can I keep the health problem under control? _____
3. Educational requirements:
    - a. Am I planning the right school subjects to enter a health occupation job? _____
    - b. Do I practice good study habits? _____

c. What school subjects do I like best? ______________________________

d. What kind of grades do I make now? ________________________________

4. Interests:

a. Am I interested in helping people? _____

b. Do I like scientific things? _____

c. Is my main interest to make money? _____

d. Do I prefer homemaking activities? _____

e. Am I good in sports? _____

f. Do I like music? _____ art? _____ writing? _____

g. Do I prefer to tinker with mechanical things? _____

h. Do I prefer being outdoors? _____

5. Financial requirements:

a. Can I afford to enter a preparatory health occupation education program? _____

b. Do I make good enough grades to receive a scholarship if these are available? _____

c. Am I willing to enter a vocational or technical occupation in order to reach a long range goal for a professional health career? _____

Qualifications to Enter a Health Occupation

To become a member of the health team requires certain qualifications before entering into the job or preparation for the type of health career you want. Test your knowledge of these qualifications by selecting the best answer in each one of the following statements.

1. To become a health worker, you need to: (a) like people, (b) be a loner, (c) like science courses, (d) like to work indoors.

2. To enter a junior college nursing program, you must: (a) be an average student, (b) take the National League for Nursing Aptitude Test, (c) like to study human behavior, (d) have a major in science.

3. To become a physician, you need to be: (a) an average student, (b) be in the upper 10% of your class, (c) be willing to work hard, (d) like to study anatomy.

4. To become a certified surgical technician, you need to: (a) attend a vocational school's surgical technician program, (b) like to manage things, (c) work up through the ranks, (d) like excitement.

5. To become a hospital clerical worker, you need to have high school courses in: (a) social studies, (b) business and office practices, (c) chemistry, (d) mathematics.

6. To become a sanitarian, you need to: (a) like outdoor work, (b) take some courses in biology, (c) serve an apprenticeship, (d) like to solve problems.

7. To become a hospital administrator, you need to: (a) have a business mind, (b) possess leadership qualities, (c) like to work with your hands, (d) be sympathetic with people.

8. To become a home health aide, you need to: (a) have a flair for household management, (b) have a desire to travel, (c) have an associate degree, (d) like to do literary work.

9. To become an admitting clerk, you need to: (a) be able to interview people, (b) have a neat appearance, (c) be able to type, (d) like details and accuracy.

10. To become a licensed practical nurse, you need to: (a) like to help people, (b) like to work at night, (c) be able to persuade people, (d) be able to take orders.

Interview

Interviewing is a vehicle for exploration. It is a means for the student to find out "first-hand" knowledge about the realities of a health career. In addition, it leads to active discussion and curiosity about areas of career opportunities in health and how these fit together in health maintenance and the battle against disease.

To assist the student prepare for and follow through with the interview, the following suggested outline may be used.

Instructions:

1. Name of health worker to be interviewed ____________________
2. Type of health occupation and job title ____________________
3. Present place of employment ______________________________
4. Request for interview and appointment ______________________

Suggested questions:

1. Why did you decide to be a __________________?
2. What is a typical working day?
3. How do you go about meeting an emergency?
4. What do you enjoy most about your work? How does it affect your personal life?
5. In what way do you think your work contributes to a person's health? For example, how do you help me and my friends stay healthy? If I become ill, what will you be doing to help me recover?
6. What personal qualities do you think a person needs in order to become a ________________________?
7. When did you first begin to think about being a _____________?
8. What kind of education did you need to enter your career?
9. What kinds of opportunities for advancement can you expect?
10. Did you have to meet any special requirements (license or certification) before you could get a job?

11. If I decided to be a ______________________,
--what kind of grades would I need to make in school?
--how much salary could I expect to earn?
--what kinds of occupational hazards will I need to consider?
--what is the need for workers in your health occupation?
--what kinds of tools will I be using?

Report a Field Trip

1. Place visited______________________________________

2. Functions of health facility or agency______________________

____

3. What I observed:

-- types of activities ____________________________________

____

____

-- equipment ____

____

____

-- kinds of activities being carried out by different health workers

____

____

____

-- how I saw health workers helping me and my community ____________

____

____

PREPARATION QUESTIONS

FOR RESOURCE PERSONS

Dear

The following are some questions around which students will center most of their questioning:

- Where do you work?
- What is your job title?
- What do you work with? (equipment, people, etc.)
- What role do you play on the health team?
- How long have you been on your present job?
- What is the possibility of advancement? Is additional education needed?
- How much additional training above high school do you need to enter your job? If any.
- Why did you choose this field.
- What is your salary? (give a range in which your salary falls, not specific salary)
- Do you like your job? If so why?

These are just a few questions that students would like to know. If you must wear a uniform for your job, please wear it to class. Also if you would like to being equipment or demonstrate something you do on the job, the students would enjoy this.

Thank you for your cooperation.

Sincerely,

Addresses of Associations, Distributors and Publishers

American Academy of Family
Physicians
Volker Boulevard at Brookside
Kansas City, Missouri 64112

American Academy of Pediatrics
1801 Hinman Avenue
Evanston, Illinois 60201

American Academy of Physicians'
Associates
Room 356
2150 Pennsylvania Avenue
Washington, D.C. 20037

American Association for Health,
Phys. Education and Recreation
1201 Sixteenth Street, N.W.
Washington, D.C. 20036

American Association for
Inhalation Therapy
3554 Ninth Street
Riverside, California 92501

American Association of Blood
Banks
Suite 1322
30 North Michigan Avenue
Chicago, Illinois 60602

American Association of Colleges
of Pharmacy
Suite 800
8121 Georgia Avenue
Silver Spring, Maryland 20910

American Association of Dental
Schools
211 East Chicago Avenue
Chicago, Illinois 60611

American Association of
Industrial Nurses
79 Madison Avenue
New York, New York 10016

American Association of Medical
Assistants
One East Wacker Drive
Chicago, Illinois 60601

American Association of Nurse
Anesthetists
111 East Wacker Drive
Suite 929
Chicago, Illinois 60601

American Association of
Ophthalmology
Room 304
1100 17th Street, N.W.
Washington, D.C. 20036

American Cancer Society
219 East 42nd Street
New York, New York 10017

American College Health Asso.
2807 Central Street
Evanston, Illinois 60201

American College of Hospital
Administrators
840 North Lake Shore Drive
Chicago, Illinois 60611

American College of Nurse-
Midwives
50 East 92nd Street
New York, New York 10028

American College of Preventive
Medicine
c/o 801 Lancaster Road
Bryn Mawr, Pennsylvania 19010

American College of Surgeons
55 East Erie Street
Chicago, Illinois 60611

American Corrective Therapy
Association
Public Relations Officer
1781 Begen Avenue
Mountain View, California
94040

American Dental Assistants
Association
211 East Chicago Avenue
Chicago, Illinois 60611

American Dental Association
211 East Chicago Avenue
Chicago, Illinois 60611

American Dental Hygienists' Association
211 East Chicago Avenue
Chicago, Illinois 60611

American Diabetes Association
18 East 48th Street
New York, New York 10017

American Dietetic Association
620 North Michigan AVenue
Chicago, Illinois 60611

American Heart Association
44 East 23rd Street
New York, New York 10010

American Home Economics Association
2010 Massachusetts Ave., N.W.
Washington, D.C. 20036

American Hospital Association
840 North Lake Shore Drive
Chicago, Illinois 60611

American Industrial Hygiene Association
210 Haddon Avenue
Westmont, New Jersey 01108

American Institute of Physics
335 East 45th Street
New York, New York 10017

American Journal of Art Therapy
Box 4918
Washington, D.C. 20008

American Library Association
50 East Huron Street
Chicago, Illinois 60611

American Medical Association
535 North Dearborn Street
Chicago, Illinois 60610

American Medical Record Asso.
875 N. Michigan AVenue
Suite 1850
Chicago, Illinois 60611

American Medical Technologists
710 Higgins Road
Park Ridge, Illinois 60068

American Medical Women's Asso.
1740 Broadway
New York, New York 10019

American National Red Cross
17th and E Streets, N.W.
Washington, D.C. 20006

American Nurses' Association
Careers Program
2420 Pershing Road
Kansas City, Missouri 64108

American Occupational Therapy Association
6000 Executive Boulevard
Suite 200
Rockville, Maryland 20852

American Optometric Association
7000 Chippewa Street
St. Louis, Missouri 63119

American Orthotic and Prosthetic Association
1440 N Street, N.W.
Washington, D.C. 20005

American Osteopathic Association
212 East Ohio Street
Chicago, Illinois 60611

American Pharmaceutical Asso.
2215 Constitution Avenue, N.W.
Washington, D.C. 20037

American Physical Therapy Asso.
1156 15th Street, N.W.
Washington, D.C. 20005

American Physiological Society
9650 Rockville Pike
Bethesda, Maryland 20014

American Podiatry Association
20 Chevy Chase Circle, N.W.
Washington, D.C. 20015

American Psychiatric Association
(Joint Information Service)
1700 18th Street, N.W.
Washington, D.C. 20009

American Psychological Association
1200 17th Street, N.W.
Washington, D.C. 20036

American Public Health Association
1015 18th Street, N.W.
Washington, D.C. 20036

American Rehabilitation Counseling Association
1605 New Hampshire Avenue
Washington, D.C. 20036

American School Health Association
107 South Depeyster Street
Kent, Ohio 44240

American Social Health Association
1740 Broadway
New York, New York 10019

American Society for Medical Technology
5555 West Loop
Houston, Texas 77401

American Society for Microbiology
1913 Eye Street, N.W.
Washington, D.C. 20006

American Society for Pharmacology and Experimental Therapeutics
9650 Rockville Pike
Bethesda, Maryland 20014

American Society of Biological Chemists
9650 Rockville Pike
Bethesda, Maryland 20014

American Society of Civil Engineers
345 East 47th Street
New York, New York 10017

American Society of Clinical Pathologists
2100 West Harrison Street
Chicago, Illinois 60612

American Society of Electroencephalographic Technologists
University of Iowa
Division of EEG & Neurophysiology
500 Newton Road
Iowa City, Iowa 52240

American Society of Radiologic Technologists
645 North Michigan Avenue
Chicago, Illinois 60611

American Speech and Hearing Association
9030 Old Georgetown Road
Washington, D.C. 20014

American Veterinary Medical Association
600 South Michigan Avenue
Chicago, Illinois 60605

Ames Company
Division of Miles Laboratories, Inc.
1127 Myrtle Street
Elkhart, Indiana 46514

Arthritis Foundation
1212 Avenue of the Americas
New York, New York 10036

Association of American Medical Colleges
One Dupont Circle, N.W.
Washington, D.C. 20036

Association of Medical Illustrators
Medical College of Georgia
Augusta, Georgia 30902

Association of Medical Rehabilitation
Directors and Coordinators
3830 Linklea Drive
Houston, Texas 77205

Association of Schools of Allied
Health Professions
One Dupont Circle
Suite 300
Washington, D.C. 20036

Association of Schools of Public
Health
University of Pittsburgh
130 Desoto Street
Pittsburgh, Pennsylvania 15213

Association of University
Programs in Hospital
Administration
One Dupont Circle
Suite 420
Washington, D.C. 20036

Biological Photographic Asso.
P.O. Box 12866
Philadelphia, Pennsylvania 18108

Biomedical Engineering and
Instrumentation Branch
Division of Research Services
National Institute of Health
9000 Rockville Pike
Building 13, Room 3W13
Bethesda, Maryland 20014

Biomedical Engineering Society
P.O. Box 1600
Evanston, Illinois 60204

Career World Book Services
501 Lake Forrest Avenue
Highwood, Illinois 60040

C.V. Mosby Company
11830 Westline Industrial Drive
St. Louis, Missouri 63141

Curriculum Innovations, Inc.
Highwood, Illinois

E.I. Dupont Company, Inc.
Wilmington, Delaware 19898

Encyclopedia Britannica
Education Corporation
Department 10-A
425 North Michigan Avenue
Chicago, Illinois 60611

Fairchild Publications
Book Division, Dept. G.L.
7 East 12th Street
New York, New York 10003

Food and Drug Administration
Parklawn Building
5600 Fishers Lane
Rockville, Maryland 20852

Harcourt and Brace
757 Third Avenue
New York, New York 10022

Harper and Row Company
10 East 53rd Street
New York, New York 10022

Harvard University Press
Cambridge, Massachusetts

Julian Messner Publishers
Division of Simon and Schuster,
Inc.
One West 39th Skreet
New York, New York 10018

Kentucky Department of Human
Resources
Frankfort, Kentucky

Kentucky Economic Security Div.
Frankfort, Kentucky

Kentucky Health Careers Asso.
1415 St. Anthony's Place
Louisville, Kentucky

Kentucky State Department of
Education
Bureau of Vocational Education
Frankfort, Kentucky 40601

MEDIHC Program
National Institute of Health
Bureau of Health Manpower Educ.
Division of Allied Health
9000 Rockville Pike
Bethesda, Maryland 20014

Motion Talking Picture Services
9 Garfield Place
Cincinnati, Ohio 45202

National Educational Television
Indiana University
Bloomington, Indiana 47405

National Institute of Health
Bureau of Health Manpower
Education
Information Office
9000 Rockville Pike
Bethesda, Maryland 20014

Office of Manpower Development
and Training
Environmental Health Services
Department of Health, Education
and Welfare
5600 Fishers Lane
Parklawn Building
Rockville, Maryland 30852

Random House, Inc.
201 East 50th Street
New York, New York 10022

Steck-Vaughn Company
Box 2028
Austin, Texas 78767

Sterling Movies, U.S.A.
43 West 61st Street
New York, New York 10023

Thomas Nelson, Inc.
Nashville, Tennessee

United States Atomic Energy
Commission
Division of Technical Information
Oak Ridge, Tennessee

United States Communicable
Disease Center
Atlanta, Georgia

United States Government Printing
Office
Superintendent of Documents
Washington, D.C.

University of Kentucky
Audio-Visual Services
Lexington, Kentucky 40506

World Publishing Company
110 East 59th Street
New York, New York 10022

Additional Resources

Association for Physical and
Mental Retardation
105 Saint Lawrence Street
Rehoboth Beach, Delaware 19971

Association of Medical
Rehabilitation Directors
and Coordinators
Franklin Delano Roosevelt
VA Hospital
Montrose, New York 10548

Biomedical Engineering Society
P.O. Box 1600
Evanston, Illinois 60204

Institute of Food Technologists
221 North La Salle Street
Suite 2120
Chicago, Illinois 60601

Medical Library Association, Inc.
919 North Michigan Avenue
Suite 2023
Chicago, Illinois 60611

National Association of Certified
Dental Laboratories
3801 Mount Vernon Avenue
Alexandria, Virginia 22305

National Association of Speech
and Hearing Agencies
919 18th Street, N.W.
Washington, D.C. 20006

National Association of Recreational Therapists, Inc.
Eastern State Hospital
Vinita, Oklahoma 74301

National Association of Social
Workers
Two Park Avenue
New York, New York 10016

National Center for Health
Statistics
U.S. Public Health Service
Department of Health, Education
and Welfare
5600 Fishers Lane
Rockville, Maryland 20852

National Committee for Careers
in the Medical Laboratory
9650 Rockville Pike
Bethesda, Maryland 20014

National Council for Homemaker-
Home Health Aide Services, Inc.
1740 Broadway
New York, New York 10019

National Environmental Health
Association
1600 Pennsylvania Avenue
Denver, Colorado 80203

National Executive Housekeepers
Association, Inc.
Business and Professional Bldg.
Gallipolis, Ohio 45631

National Federation of Licensed
Practical Nurses, Inc.
250 West 57th Street
New York, New York 10019

National Health Council
1740 Broadway
New York, New York 10019

National League for Nursing
10 Columbus Circle
New York, New York 10019

Registry of Medical Rehabilitation Therapists & Specialists
4975 Judy Lynn
Memphis, Tennessee 38118

Society of Nuclear Medical
Technologists
1201 Waukegan Road
Glenview, Illinois 60025

Society of Technical Writers
and Publishers
1010 Vermont Avenue, N.W.
Washington, D.C. 20005

Wyeth Laboratories
Division of American Home
Products
Box 8299
Philadelphia, Pennsylvania 19101